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(54) **Title:** TREATMENT FOR BONE DISEASES

(57) **Abstract:** The invention relates to the treatment of bone disorders. In particular, the invention is directed to the use of a dosing holiday to help overcome the resistance to anti-sclerostin antibodies which develops over time when a plurality of doses of antibody are given to a subject. By giving the subject to be treated such a dosing holiday, the subject may subsequently display an increased response to a subsequent dose of the anti-sclerostin antibody. The subject may be given multiple cycles of a batch of at least two doses of anti-sclerostin antibody and a dosing holiday. In some instances, the subject may be monitored to help determine when to give the dosing holiday. Further, the subject may be given a different treatment for the bone disorder during the dosing holiday from the anti-sclerostin antibody.



WO 2014/006100 A1

TREATMENT FOR BONE DISEASES

TECHNICAL FIELD OF THE INVENTION

The invention generally relates to methods of treating bone disorders using anti-
5 sclerostin antibodies.

INCORPORATION BY REFERENCE OF MATERIAL SUBMITTED ELECTRONICALLY

Incorporated by reference in its entirety is a computer-readable nucleotide/amino
10 acid sequence listing submitted concurrently herewith and identified as follows: ASCII
(text) file named "40016B_SeqListing.txt," 800,814 bytes, created July 1, 2013.

CROSS-REFERENCE TO RELATED APPLICATIONS AND INCORPORATION BY REFERENCE

15 This application claims priority to U.S. Provisional Patent Application No.
61/668,210, filed July 5, 2012, and U.S. Provisional Patent Application No. 61/782,072,
filed March 14, 2013, the disclosures of which are hereby incorporated by reference in
their entirety.

The following applications are hereby incorporated by reference in their entirety:
20 U.S. Patent Application No. 11/410,540 (issued as U.S. Patent No. 8,003,108), filed
April 25, 2006, which claims priority to U.S. Provisional Patent Application No.
60/792,645, filed April 17, 2006, U.S. Provisional Patent Application No. 60/782,244,
filed March 13, 2006, U.S. Provisional Patent Application No. 60/776,847, filed
February 24, 2006, and U.S. Provisional Patent Application No. 60/677,583, filed May
25 3, 2005; and U.S. Patent Application No. 11/411,003 (issued as U.S. Patent No.
7,592,429), filed April 25, 2006, which claims priority to U.S. Provisional Patent
Application No. 60/792,645, filed April 17, 2006, U.S. Provisional Patent Application
No. 60/782,244, filed March 13, 2006, U.S. Provisional Patent Application No.
60/776,847, filed February 24, 2006, and U.S. Provisional Patent Application No.
30 60/677,583, filed May 3, 2005. The following applications also are hereby incorporated
by reference: U.S. Provisional Patent Application No. 61/668,210, filed July 5, 2012;

U.S. Patent Application No. 12/212,327 (issued as U.S. Patent No. 8,017,120), filed September 17, 2008, which claims priority to U.S. Provisional Patent Application No. 60/973,024, filed September 17, 2007; and U.S. Patent Application No. 12/811,171, filed June 29, 2010, which is a U.S. National Phase Application pursuant to 35 U.S.C. § 371
5 of International Patent Application No. PCT/US08/86864, filed on December 15, 2008, which claims priority to U.S. Provisional Patent Application No. 61/013,917, filed December 14, 2007.

BACKGROUND OF THE INVENTION

10 Loss of bone mineral content can be caused by a wide variety of conditions and may result in significant medical problems. For example, osteoporosis is a debilitating disease in humans and is characterized by marked decreases in skeletal bone mass and mineral density, structural deterioration of bone, including degradation of bone
15 microarchitecture and corresponding increases in bone fragility (i.e., decreases in bone strength), and susceptibility to fracture in afflicted individuals. Osteoporosis in humans is generally preceded by clinical osteopenia (bone mineral density that is greater than one standard deviation but less than 2.5 standard deviations below the mean value for young adult bone), a condition found in approximately 25 million people in the United States. Another 7-8 million patients in the United States have been diagnosed with
20 clinical osteoporosis (defined as bone mineral content greater than 2.5 standard deviations below that of mature young adult bone). The frequency of osteoporosis in the human population increases with age. Among Caucasians, osteoporosis is predominant in women who, in the United States, comprise 80% of the osteoporosis patient pool. The increased fragility and susceptibility to fracture of skeletal bone in the aged is
25 aggravated by the greater risk of accidental falls in this population. Fractured hips, wrists, and vertebrae are among the most common injuries associated with osteoporosis. Hip fractures in particular are extremely uncomfortable and expensive for the patient, and for women, correlate with high rates of mortality and morbidity.

SUMMARY OF THE INVENTION

The summary below is not intended to define every aspect of the invention, and additional aspects are described in other sections, such as the Detailed Description. The entire document is intended to be related as a unified disclosure, and it should be understood that all combinations of features described herein are contemplated, even if the combination of features are not found together in the same sentence, or paragraph, or section of this document. With respect to aspects of the invention described or claimed with “a” or “an,” it should be understood that these terms mean “one or more” unless context unambiguously requires a more restricted meaning. The term “or” should be understood to encompass items in the alternative or together, unless context unambiguously requires otherwise. If aspects of the invention are described as “comprising” a feature, embodiments also are contemplated “consisting of” or “consisting essentially of” the feature. Where the term “about” is used the application also discloses employing the exact value specified.

Antibodies against sclerostin may be used to treat bone disorders, as they both promote bone formation and inhibit bone resorption. After multiple doses of anti-sclerostin antibody are administered, resistance to the antibody may though develop, where the response to the antibody is diminished and is lower than the “naïve” response seen when the anti-sclerostin antibody is administered for the first time to a subject. Such resistance may reduce the efficacy of treatment, particularly for subjects who have chronic conditions that require long term treatment.

Unexpectedly, it has now been shown that the development of such resistance is reversible. In particular, by allowing patients a dosing holiday, where they are not administered the anti-sclerostin antibody, the subject may once again show a higher response to a subsequent dose of the anti-sclerostin antibody. In some cases, multiple cycles of a batch of at least two doses of the anti-sclerostin antibody, followed by a dosing holiday, are performed, so that the subject may be given anti-sclerostin antibody treatment over a prolonged period, whilst minimizing the development of resistance to the antibody.

The method may be, in some instances, combined with monitoring for resistance to the antibody, such as by monitoring the response seen, to help optimize when best to

give the patient the dosing holiday. Further, in some instances, the patient may be treated with a different therapy for the bone disorder in the dosing holiday for the anti-sclerostin antibody. In particular, the subject may be administered bisphosphonates during the dosing holiday. That has the further advantage that it means the subject is not
5 treated continuously with the other therapy. For instance, it may be beneficial for subjects to have a break from treatment with another therapeutic, such as bisphosphonates, and cycling between antibody and bisphosphonate treatment also helps avoid continuous treatment with bisphosphonates. In some instances, the different therapy may be an anti-resorptive which is not a bisphosphonate, including any of those
10 discussed herein.

Hence, the present invention provides a method for treating a bone disorder associated with at least one of low bone formation, low bone mineral density, low bone mineral content, low bone mass, low bone quality and low bone strength in a mammalian subject, which method comprises:

- 15 (a) administering a batch of at least two doses of anti-sclerostin antibody to a subject in need of such treatment;
- (b) then allowing the subject a dosing holiday, which is greater in length than the time interval between two successive doses in the batch of (a); and
- (c) administering to the subject at least one further dose of anti-sclerostin
20 antibody after the dosing holiday of (b).

The invention further provides a method for treating a bone disorder associated with at least one of low bone formation, low bone mineral density, low bone mineral content, low bone mass, low bone quality and low bone strength in a mammalian subject, which method comprises:

- 25 (a) administering at least one dose of anti-sclerostin antibody to the subject and monitoring the subject to identify whether the subject shows a reduced response to a dose of the anti-sclerostin antibody; and
- (b) if such a reduced response is identified, allowing the subject a dosing holiday which is at least four weeks in length.

30 The invention also provides a method for treating a bone disorder associated with at least one of low bone formation, low bone mineral density, low bone mineral

content, low bone mass, low bone quality and low bone strength in a mammalian subject, which method comprises:

- 5 (a) administering a batch of at least two doses of anti-sclerostin antibodies to a subject in need of such treatment and monitoring the subject to identify when the subject shows a reduced response to a dose of the anti-sclerostin antibody;
- (b) when such a reduced response is identified, allowing the subject a dosing holiday which is greater in length than the time interval between two successive doses in the batch of (a); and
- 10 (c) administering to the subject at least one further dose of anti-sclerostin antibody after the dosing holiday of (b).

The invention also provides a method for treating a bone disorder associated with at least one of low bone formation, low bone mineral density, low bone mineral content, low bone mass, low bone quality and low bone strength in a mammalian subject, which method comprises:

- 15 (a) administering to a subject in need of such treatment a batch of at least two doses of anti-sclerostin antibody;
- (b) then allowing the subject a dosing holiday which is greater in length than the interval between two successive doses in the batch of (a), where during that interval the subject is administered a different treatment for the bone disorder;
- 20 and
- (c) after the dosing holiday of (b) administering to the subject at least one further dose of anti-sclerostin antibody.

The invention further provides an anti-sclerostin antibody for use in a method of treating a bone disorder associated with at least one of low bone formation, low bone mineral density, low bone mineral content, low bone mass, low bone quality and low bone strength in a mammalian subject, which method comprises:

- 25 (a) administering a batch of at least two doses of anti-sclerostin antibody to a subject in need of such treatment;
- (b) then allowing the subject a dosing holiday, which is greater in length than the time interval between two successive doses in the batch of (a); and
- 30 (c) administering to the subject at least one further dose of anti-sclerostin antibody after the dosing holiday of (b).

Also provided by the invention is an anti-sclerostin antibody for use in a method for treating a bone disorder associated with at least one of low bone formation, low bone mineral density, low bone mineral content, low bone mass, low bone quality and low bone strength in a mammalian subject, which method comprises:

- 5 (a) administering at least one dose of anti-sclerostin antibody to a subject in need of such treatment and monitoring the subject to identify whether the subject shows a reduced response to a dose of the anti-sclerostin antibody; and
- (b) if such a reduced response is identified, allowing the subject a dosing holiday which is at least four weeks in length.

10 Further provided by the invention is an anti-sclerostin antibody for use in a method of treating a bone disorder associated with at least one of low bone formation, low bone mineral density, low bone mineral content, low bone mass, low bone quality and low bone strength in a mammalian subject, which method comprises:

- (a) administering a batch of at least two doses of anti-sclerostin antibody to a
- 15 subject in need of such treatment and monitoring the subject to identify when the subject shows a reduced response to a dose of the anti-sclerostin antibody;
- (b) when such a reduced response is identified, allowing the subject a dosing holiday which is greater in length than the time interval between two successive doses in the batch of (a); and
- 20 (c) administering to the subject at least one further dose of anti-sclerostin antibody after the dosing holiday of (b).

The invention also provides for the use of an anti-sclerostin antibody in the manufacture of a medicament for use in treating a bone disorder associated with at least one of low bone formation, low bone mineral density, low bone mineral content, low

25 bone mass, low bone quality and low bone strength in a mammalian subject, where the medicament is to be administered in a method comprising:

- (a) administering a batch of at least two doses of anti-sclerostin antibody to a subject in need of such treatment;
- (b) then allowing the subject a dosing holiday, which is greater in length
- 30 than the time interval between two successive doses in the batch of (a); and
- (c) administering to the subject at least one further dose of anti-sclerostin antibody after the dosing holiday of (b).

Additionally, the invention provides for the use of an anti-sclerostin antibody in the manufacture of a medicament for use in treating a bone disorder associated with at least one of low bone formation, low bone mineral density, low bone mineral content, low bone mass, low bone quality and low bone strength in a mammalian subject, where
5 the medicament is to be administered in a method comprising:

- (a) administering at least one dose of anti-sclerostin antibody to a subject in need of such treatment and monitoring the subject to identify whether the subject shows a reduced response to a dose of the anti-sclerostin antibody; and
- 10 (b) if such a reduced response is identified, allowing the subject a dosing holiday which is at least four weeks in length.

The invention further provides for the use of an anti-sclerostin antibody in the manufacture of a medicament for use in treating a bone disorder associated with at least one of low bone formation, low bone mineral density, low bone mineral content, low
15 bone mass, low bone quality and low bone strength in a mammalian subject, where the medicament is to be administered in a method comprising:

- (a) administering a batch of at least two doses of anti-sclerostin antibody to a subject in need of such treatment and monitoring the subject to identify when the subject shows a reduced response to a dose of the anti-sclerostin antibody;
- 20 (b) when such a reduced response is identified, allowing the subject a dosing holiday which is greater in length than the time interval between two successive doses in the batch of (a); and
- (c) administering to the subject at least one further dose of anti-sclerostin antibody after the dosing holiday of (b).

25 The invention also provides for the use of an anti-sclerostin antibody in the manufacture of a medicament for use in treating a bone disorder associated with at least one of low bone formation, low bone mineral density, low bone mineral content, low bone mass, low bone quality and low bone strength in a mammalian subject, where the medicament is to be administered in a method comprising:

- 30 (a) administering to a subject in need of such treatment a batch of at least two doses of anti-sclerostin antibody;
- (b) then allowing the subject a dosing holiday which is greater in length than the interval between two successive doses in the batch of (a), where during that

interval the subject is administered a different treatment for the bone disorder;
and

(c) after the dosing holiday of (b) administering to the subject at least one
further dose of anti-sclerostin antibody.

5

BRIEF DESCRIPTION OF THE FIGURES

Figure 1 shows the results of a preliminary experiment to measure the kinetics of P1NP response after subcutaneous administration of anti-sclerostin antibody to help gauge when best to measure P1NP levels in the subsequent experiments. Circulating P1NP levels for two mice dosed subcutaneously with 10 mg/kg on day 0 are shown (square and diamond symbols) along with the level of anti-sclerostin antibody in a similarly dosed mouse (triangular symbols).

Figure 2 shows how P1NP response to anti-sclerostin antibodies falls after multiple doses of antibody. P1NP levels are shown for group A mice administered saline alone (diamond symbols), group B mice (square symbols) administered subcutaneously 10 mg/kg anti-sclerostin antibody at the time points indicated at the bottom of the graph and group C mice (triangular symbols) administered saline, except for a single dose of antibody at the time-point depicted. The statistics use an unpaired T test (two tailed) looking at difference of absolute values at day of test. For the results shown the group B mice were administered antibody doses at days 0, 7, 14, 21 and 28, with the single doses for the group C subgroups administered at either day 14 or 28.

Figure 3 shows that the decline in plasma P1NP levels after multiple doses of antibody is not due to more rapid elimination of the antibody in the multiple dosed group. The level of antibody is shown for the repeat dose group B and single dose group C immediately before a dose of 10 mg/kg of antibody given subcutaneously on day 28 and the level four days after the dose of antibody at day 32 (mean and SEM levels).

Figure 4 shows the kinetics of P1NP induction are the same in mice given a single dose or multiple doses of anti-sclerostin antibody, only the magnitude of the P1NP induction is different between the two groups. The P1NP levels for series 1 (diamond symbols) and series 2 (square symbols) are shown where the mice were given a single dose of anti-sclerostin antibody, as well as the levels for the series 3 mice

(triangular symbols) given multiple doses of anti-sclerostin antibody. The time of the administration of the antibody is shown by the arrows under the graph.

Figure 5 shows P1NP levels in groups A, B and subgroups of group C given a single dose of antibody at the depicted time point. The symbols are the same as indicated above for Figure 2. The dosing schedule for group B is shown by arrows at the bottom of the graph and corresponds to doses at days 0, 7, 14, 21 and 28 and days 84, 91, 98, 105, 112 119 and 176 (no baseline sample was taken on day 119). Hence, there were dosing holidays between days 28 and 84 and also days 119 and 176. The single doses for the group C subgroups were at days 14, 28, 84, 119 and 176. The statistics use an unpaired T test (two tailed) looking at difference of absolute values at day of test.

Figure 6 shows bone mineral density in group A mice (circular symbols) and group B mice (square symbols). The dosing schedule for the group B animals is shown at the bottom of the graph.

Figure 7 is a chart listing amino acid sequences and sequence identifiers for amino acid sequences of various anti-sclerostin antibodies described herein. The sequence identifiers refer to amino acid sequences provided in the Sequence Listing submitted herewith. The amino acid sequences also are set forth in U.S. Patent Publication No. 20070110747, hereby incorporated by reference.

Figure 8 is a listing of amino acid sequences and nucleotide sequences set forth in International Patent Publication No. WO 2008/115732, referred to herein.

Figure 9 is a listing of amino acid sequences and nucleotide sequences set forth in International Patent Publication No. WO 2009/047356, referred to herein.

Figure 10 is a listing of amino acid sequences and nucleotide sequences set forth in International Patent Publication No. WO 2010/130830, referred to herein.

Figure 11A is a graph illustrating P1NP levels in mice receiving five weekly doses of anti-sclerostin antibody followed by a single dose of anti-sclerostin antibody after a two week (administration on day 42), four week (administration on day 56), or six week (administration on day 70) holiday (triangle symbols) and age-matched mice receiving a single dose of anti-sclerostin antibody on day 28, day 42, day 46, or day 70 (square symbols). P1NP levels (ng/ml) are depicted on the y-axis, and day of the study is depicted on the x-axis. Figure 11B is a bar graph illustrating total bone mineral

density (BMD; g/cm²; y-axis) measured at various time points (days, x-axis). Bars denoted “#” correspond to measurements taken in mice receiving five weekly doses of anti-sclerostin antibody (fifth dose administered on day 28) followed by a single dose of anti-sclerostin antibody on days 42, 56, or 70 (corresponding to a two week, four week, or six week holiday, respectively). Bars denoted “+” correspond to measurements taken in mice receiving a single dose of anti-sclerostin antibody on days 28, 42, 56, or 70 of the study.

DETAILED DESCRIPTION OF THE INVENTION

Unexpectedly, it has been shown that it is possible to reverse, or reduce, the resistance which develops when multiple doses of anti-sclerostin antibody are administered by allowing the subject a dosing holiday where they are not administered the antibody. After the dosing holiday, the subject typically shows an increased response to the anti-sclerostin antibody in comparison to a response prior to the dosing holiday.

Dosing

Prior to being given a dosing holiday, the subject will have been administered at least one dose of anti-sclerostin antibody. Typically, the subject will have been given a plurality of doses prior to the holiday. For instance, the subject may have been given a batch of at least two doses of the anti-sclerostin antibody prior to the dosing holiday. Preferably, the subject may have been administered three, four, five, or at least those numbers of doses of antibody before being given a dosing holiday. The administration of such a batch of doses may form part of the invention.

In some cases, the subject may be given a batch of two, three, four, five, six, seven, eight, nine or more doses prior to the dosing holiday, or at least that number of doses. In some instances, the subject may have been given a batch of ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen or more doses of the antibody. In some instances the subject may have been given a batch of ten or less, nine or less, eight or less, seven or less, six or less or five or less doses, where the number of doses given is at least two, preferably at least three and more preferably at least four doses. It may be that the subject is given a batch of from two to sixteen doses, such as from two to

fourteen doses or from two to twelve doses. In some instances, the subject may have been given a batch of from two to seven, from two to six, from two to five, or from two to four doses prior to the holiday. In other instances, the number of doses may be from three to eight, seven, six, five or four doses. In other instances, the number of doses in the batch may be from four to eight, seven, six, or five doses. In some instances, the subject may have been given twelve doses of the antibody. In one instance, the subject will have been administered, or is administered, a batch of doses, where the overall time period for the batch is at least two, three, four, five, six, seven, eight, nine, ten, eleven or twelve months or, for example, at least about 4, 8, 12, 16, 20 or 24 weeks in length. In one instance, the overall duration of a batch of doses may be about six months, twelve months (i.e., one year) or eighteen months.

In some instances, the interval between individual doses in a batch may be about two weeks. In other cases, the interval may be longer. For instance, the interval may be about a month, 2 months, 3 months, 4 months, 5 months, 6 months or longer. In some cases, the interval between doses in a batch may be about every two, three, four, five, six, seven, or eight weeks. In some cases, the interval between doses in a batch may be about from one week to six months, from two weeks to four months, from three weeks to six weeks, or from four to five weeks. In one preferred instance, the interval between doses may be about a month or may be about four weeks. In other instances, the interval may be about 7 days, a week, 2 weeks, 3 weeks, four weeks, 1 month, 5 weeks, 6 weeks, 7 weeks, 2 months, 8 weeks, 9 weeks, 10 weeks, 11 weeks, 12 weeks or 3 months. In some instances, the interval between doses in a batch may be about a day, two days, three days, four days, five days, six days, seven days or longer. In some instances, the doses may be given once, twice, three, four, five, six or seven times a week.

In some instances, the doses in a batch may be administered every week, two weeks, four weeks, six weeks or eight weeks, or about such intervals. The intervals between doses in a batch may be, for instance, monthly, two monthly or three monthly, or about those intervals. In some cases individual doses of antibody may be given more than once a week, such as two, three or four times a week. For instance, doses may be administered in some cases every two, three, four, five, six, seven or eight days to the subject.

In some instances, the invention may entail administering any of the above specified batches of dosages, for instance as part of the method of the invention. In some instances, the subject may have been known to have been administered such a number of doses, but the administration of the batch of the doses does not form part of the method, rather the subject is simply given a dosing holiday prior to being administered a further batch of doses.

In some cases the number of doses given to the subject is such that a drop of the response of the subject to the antibody is seen for at least one of the doses given in a batch, for instance for the last dose prior to the holiday being initiated. The dosing holiday may begin when the subject first shows a reduction in the response to the antibody. In some instances, the dosing holiday may begin after one, two or three doses showing a reduced effect. For instance, in some cases the dosing holiday may be started where a subsequent dose shows a reduced effect in comparison to the response seen with the first dose of the antibody given to the subject. In some cases, it may be that the average response seen for at least two doses is reduced in comparison to that seen for two earlier doses, particularly the first two doses.

In some instances, the subject may be actively monitored to determine the best time for the dosing holiday, in other cases the subject is not monitored for resistance. In some cases, the dosing holiday may be initiated when the response seen for a dose of antibody falls below 90%, 80%, 70%, 60%, 50%, 40%, 30% or less than the response seen with an earlier dose, such as for the first dose. In some instances, the dosing holiday may be initiated when the response to a dose is below such a percentage in comparison to what would be expected for a naive subject with the same disorder, such as an age and gender matched subject. In some instances, the drop in response may be at least 5%, 15%, 20%, 25%, 30%, 40%, 50% or more. In some course the parameter used to gauge how much the response is reduced is any of those mentioned herein. In one preferred instance, the response may be that defined by reference to P1NP levels, though any of the markers discussed herein may be employed.

In some instances, the response may be that gauged using change in bone mineral density (BMD). The rate, or amount, of bone formation, the rate, or amount, of bone resorption, or any combination thereof may also be used as a parameter to define the response to the antibody. It may be that the anti-sclerostin antibody still brings

about an increase in BMD, but the increase is less than that for a naïve subject. Hence, a reduced response may be one with a smaller increase than would be expected for a naïve subject, including for any of the markers discussed herein.

Dosing Holidays

5 Typically a dosing holiday is a time period where no anti-sclerostin antibody is administered to a subject. Such a dosing holiday may help reduce, reverse or prevent the reduced response to an anti-sclerostin antibody seen in subjects given a plurality of doses of the antibody and hence help improve the efficiency of treatment of bone disorders with anti-sclerostin antibodies. Typically, the dosing holiday will result in
10 reversal or reduction of the reduced response displayed by the subject to the anti-sclerostin antibody. Hence, the subject may display a higher response to the antibody than prior to the dosing holiday. The subject may, for instance, display a response to the anti-sclerostin antibody which is closer to the “naïve” response to the antibody when the subject was first administered the anti-sclerostin antibody. For at least about 50%,
15 60%, 70%, 80%, 90%, 95%, or 99% of the naïve response or even about 100% of the naïve response. In a preferred instance, the dosing holiday will result in a higher response to the anti-sclerostin antibody as measured by a bone marker, such as a marker of bone resorption and/or formation, including any of those mentioned herein, particularly P1NP.

20 Typically, the administration of a batch of doses, followed by a dosing holiday and then administration of at least one dose of antibody, means that the dosing regimen followed is one of irregular dosing. Hence, the treatment may be characterized by irregular dosing, such as over the treatment period as a whole. The length of a dosing holiday may vary. A dosing holiday will be typically longer in length than the interval
25 between individual doses in a batch, for instance the interval between doses in a batch of doses known to have been administered to the subject or administered to the subject as part of the invention. In some instances, the dosing holiday may be any of the above specified lengths as long as the interval between doses in the preceding batch is shorter. In some instances, the dosing holiday may be any of at least 4, 5, 6, 7, 8, 19, 10, 11 or
30 12 weeks or about such duration. It may be the dosing holiday is at least 14, 16, 18, 20, 22, 24, 26, 28, 30, 35, 40, 45 or 50 weeks in length or may be of about such duration. In some instances, the dosing holiday may be from about four weeks to 52 weeks, for

example from six weeks to 24 weeks, in some cases from eight weeks to 12 weeks. In some instances of the invention, the dosing holiday may be about two months, three months, four months, five months, six months, seven months, eight months, nine months, ten months, eleven months or twelve months or at least those time periods. In some cases the dosing holiday may be about, or at least, eighteen months in length. For instance, the dosing holiday may be about four weeks, six weeks, eight weeks, ten weeks, or twelve weeks longer than the interval between doses in a batch of doses. In some instances, the dosing holiday may be equivalent to the total duration of a batch of doses, such as any of those specified herein, or in other instances it may be equivalent to the overall duration of a batch of doses, plus an additional two, four, six, eight, twelve or more weeks in length.

It may be that the dosing holiday is at least two, three, four, five, six, seven, eight, nine or ten weeks longer than the interval between two doses in the preceding batch, or the dosing interval may be of such length. In some cases the dosing holiday may be such a length longer than the average interval for three, four, five, six, seven or more doses in a batch or, for example, than the average interval between all of the doses in a batch. The total length of the dosing holiday may be, for example, four, five, six, seven, eight, nine, ten or more weeks. For instance, the dosing holiday may be one, two, three, four, five or six months in length and in some cases may be at least a year, or eighteen months in length. In some cases, the dosing holiday may be from a month to a year, such as from two to six months in length. In some cases, the dosing holiday may be from four to sixteen weeks, for instance, from six to twelve weeks, for example from eight to ten weeks in length. In other instances, the dosing holiday may be about from six to eighteen months, for instance about a year. In some cases the dosing holiday may be about twice, three times, four times, five times, six times, seven times, eight times, nine times or more in duration than the interval between doses in a batch administered to the subject. In some instances, where a different treatment is administered during the dosing holiday, the duration of the dosing holiday may be the normal duration for a course of a different treatment for the disorder to be administered in the dosing holiday.

In some cases, the subject is given more than one dosing holiday. In particular, after the first dosing holiday, the subject is given at least two doses of the antibody and may, for instance, benefit from a further dosing holiday. In some cases, it may be that

the subject is given two, three, four, five, six, seven, or more dosing holidays in the course of their treatment. The administration of at least two doses of the antibody, followed by a dosing holiday, may be referred to as a cycle and in some instances, one, two, three, four, five, six, seven, eight, nine, ten or more such cycles may be used. In other instances, the overall total treatment period may be at least six months, nine months, a year, eighteen months, twenty-four months, or more. It may be that the overall treatment is at least 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48 or 52 weeks, or longer, or about such periods. In some instances, where the subject is being treated indefinitely with the antibody, it may be that the approach of batches of doses combined with dosing holidays is continued as long as the treatment lasts. In some instances, it may simply be that a set regimen of batch doses alternating with dosing holidays is administered. For instance, any combination of those batches and dosing holidays specified herein, for example for two, three, four, five, six or more cycles of a batch of doses followed by a dosing holiday may be administered.

In some instances, any of the batches of doses specified herein may be combined with any of the dosing holidays specified herein, as long as the dosing holiday is longer than the interval between doses in a batch. For instance, a batch of doses administered at daily, weekly, fortnightly, four weekly, six weekly or eight weekly intervals may be combined with a dosing holiday of at least six weeks, at least eight weeks, at least twelve weeks, at least 16 weeks, at least 20 weeks or at least 24 weeks, where the dosing holiday is longer than the interval between batches. In some instances, the doses in the batch may be given at about monthly or two monthly intervals and may be combined with a dosing holiday of at least three, four, five, six, eight, ten, twelve or more months in length. In some cases, the batch of doses may comprise three to fourteen doses at daily, weekly, fortnightly, four weekly or six weekly intervals, combined with a dosing holiday of at least six, eight, ten, twelve, fourteen or more weeks in length, where the dosing holiday is longer than the interval between the doses in the batch. In one instance, a batch of monthly doses is combined with a dosing holiday of at least two, three, four, five, six, twelve or more months in length. In some instances, it may be that the doses in the batch are given about every four weeks.

In some cases, the interval between earlier doses will not be known and the subject will simply be one who is displaying a reduced response to the anti-sclerostin

antibody in comparison to what would be expected for the subject. Hence, it may be that the length of the dosing holiday given is simply one of the above time periods without reference to the time between administration of earlier doses or the response to earlier doses. For example, the dosing holiday may be six weeks, eight weeks, twelve weeks, sixteen weeks, twenty weeks, twenty four weeks or more in length or any of the other possible lengths referred to. In some cases the subject may have been identified as one showing resistance to anti-sclerostin antibody, for example, even though the precise regimen previously administered is not known. It may be that they have been administered the antibody for at least about two, three, four, five, six or more months in length and hence be identified as a candidate for a dosing holiday. In some cases they may have been administered the antibody for at least about nine, twelve or eighteen months in length and hence be identified as a candidate for a dosing holiday. The subject may be displaying reduced or diminishing therapy from the existing therapy.

A fixed regimen of batch dosing and dosing holiday may be applied in some instances including any of those specified herein. It may be the fix regimen is designed with reference to age, gender, weight, the nature of the disorder, the severity of the disorder and so on.

Responses and Monitoring

In one instance, the response is the response as defined by a bone marker, for instance a bone formation and/or bone resorption marker, particularly any of those referred to herein. For instance, whether or not a response can be considered reduced may be, in some instances, defined by whether the response of the bone marker to administration of the anti-sclerostin antibody is reduced. Similarly, whether a dosing holiday may be said to prevent, or reverse, resistance to an anti-sclerostin antibody may be defined by the response of a bone marker and, for instance, the level of that marker. In a preferred instance, the response to the antibody is defined by P1NP level, particularly serum P1NP level.

In one instance, the response of the subject to a dose of anti-sclerostin antibody is measured to help gauge whether the subject is displaying resistance to the anti-sclerostin antibody. Any suitable means of measuring the response to the anti-sclerostin antibody may be employed. For instance, the level of a bone marker may be measured, in particular a marker of bone formation and/or mineralization may be measured in the

subject. Markers of bone resorption may also be employed. In other instances, the invention itself does not entail measurement, or monitoring, of the response, but the response in question is that defined by a bone marker, such as, the level of any of the bone markers referred to herein.

5 Markers indicative of bone resorption (or osteoclast activity) which may be used include, for example, C-telopeptide (e.g., C-terminal telopeptide of type 1 collagen (CTX) or serum cross-linked C-telopeptide), N-telopeptide (N-terminal telopeptide of type 1 collagen (NTX)), deoxypyridinoline (DPD), pyridinoline, urinary hydroxyproline, galactosyl hydroxylysine, and tartrate-resistant acid phosphatase (e.g.,
10 serum tartrate-resistant acid phosphatase isoform 5b). Bone formation/mineralization markers which may be used include, but are not limited to, bone-specific alkaline phosphatase (BSAP), peptides released from N- and C-terminal extension of type I procollagen (PINP, PICP), and osteocalcin (OstCa). Several kits are commercially-available to detect and quantify markers in clinical samples, such as urine and blood. In
15 one preferred instance, the marker used is selected from the serum level of C-telopeptide of type I collagen (CTX), bone-specific alkaline phosphatase (BSAP), osteocalcin (OstCa), and/or N-terminal extension of procollagen type 1 (PINP). In a preferred instance, the response is the response to such a marker.

Other approaches for measuring the effect of the anti-sclerostin antibody include
20 assessing bone mineral content and/or bone density. In some instances, the response in question may be defined by reference to bone mineral density (BMD) or bone mineral content (BMC). In some cases, it may be that the reduced response is a reduced rate of increase of BMD and/or BMC following administration of the antibody. In other words, administration of the antibody still results in an increase in bone formation
25 and/or a reduction of bone absorption, for example in terms of BMD/BMC, but at a reduced rate compared to a naïve subject. The use of a dosing holiday may mean the subject again displays the same size of increase in such parameters as a naïve subject, or at least closer to a naïve subject.

Bone mineral density may be, for instance, measured using techniques, such as,
30 single- and dual-energy X-ray absorptometry, ultrasound, computed tomography, radiography, and magnetic resonance imaging. The amount of bone mass may also be calculated from body weights or by using other methods (see Guinness-Hey, *Metab.*

Bone Dis. Relat. Res., 5:177-181 (1984)). In humans, bone mineral density may be, for instance, determined clinically using dual x-ray absorptiometry (DXA) of, for example, the hip and spine. Other techniques include quantitative computed tomography (QCT), ultrasonography, single-energy x-ray absorptiometry (SXA), and radiographic
5 absorptiometry. Common central skeletal sites for measurement include the spine and hip; peripheral sites include the forearm, finger, wrist and heel. Except for ultrasonography, the American Medical Association notes that BMD techniques typically involve the use of x-rays and are based on the principle that attenuation of the radiation depends on thickness and composition of the tissues in the radiation path. All
10 techniques may employ the comparison of results to a normative database or control subject.

In some instances, the bone mineral density (BMD) of the subject is compared to the peak density of a 30-year old healthy adult (i.e., a "young adult"), creating the so-called "T-score." A patient's BMD also may be compared to an "age-matched" bone
15 density (see, e.g., World Health Organization Scientific Group on the Prevention and Management of Osteoporosis, "Prevention and management of osteoporosis: report of a WHO scientific group." WHO Technical Report Series; 921, Geneva, Switzerland (2000)). The difference between a patient's BMD and that of a healthy, young adult is conventionally referred to in terms of the multiple of a "standard deviation," which
20 typically equals about 10% to about 12% decrease in bone density. The World Health Organization proposed four diagnostic categories based on BMD T-scores. A BMD value within 1 standard deviation of the young adult reference mean (T-score > -1) is "normal." Low bone mass (osteopenia) is indicated by a BMD value more than 1 standard deviation below the young adult mean, but less than 2.5 standard deviations
25 (T-score < -1 and > -2.5). A T-score of more than 2.5 standard deviations below the norm supports a diagnosis of osteoporosis. If a patient additionally suffers from one or more fragility fractures, the patient qualifies as having severe osteoporosis. Hence, the invention may entail calculating the T-score for the subject, for instance, in response to a dose of anti-sclerostin antibody and determining whether there is a reduced
30 improvement in the T-score following administration of a dose of the anti-sclerostin antibody.

In some instances, the decision as to when to initiate the dosing holiday may therefore be based on assessing the response of the subject to a dose of the anti-sclerostin antibody and determining whether the response is lower than expected. The dosing holiday may be, for instance, initiated when monitoring shows a reduced
5 response to a dose, or two consecutive doses, particularly in comparison to earlier doses, such as the first dose, or in comparison to the average response seen for the doses in the batch. The dosing holiday may be, for instance, begun, when the positive results seen with the treatment plateau or begin to tail-off for the batch of doses administered. It may be that the dosing holiday is administered when administration of the antibody
10 results in a smaller increase of the particular parameter or marker than would be expected. For instance, when the response is less than 90%, 80%, 70%, 60%, 50%, 40%, 30%, 25% or less than that which would be expected from the equivalent naïve subject or displayed to an earlier dose by the same subject.

In some instances of the invention the subject may be administered a test dose of
15 anti-sclerostin to gauge their response to the antibody. In particular, where the subject is known to have been administered at least two, three, four, five, or six doses of anti-sclerostin antibody previously or indeed any of the types of batch of doses specified herein. The test dose may be given, the response measured, and, if considered reduced, the subject will be given a dosing holiday. If the subject does not display a reduced
20 response, they may be given further doses of anti-sclerostin antibody. In some cases, rather than a single test dose, the subject is administered at least two, three, four, five, or six doses and their response measured.

It may be, for instance, that a subject is monitored continuously, for example after each dose of anti-sclerostin antibody. It may be that the subject is monitored, for
25 instance, about once a month, once about every two months, once about every three months, once about every four months, once about every six months or about once a year. It may be that the subject is monitored immediately before a dose is administered and then, for example, about one, two, three, four, five or six weeks later. It may be, for example, that the response seen for at least one, two, three, four, five or more doses is
30 monitored. In some cases, the dosing holiday may be initiated when the monitoring shows the response is below an expected level for the subject or below a set cut-off value.

For instance, the dosing holiday may be initiated when the response for a dose is less than the response seen for an earlier dose, such as that for the first dose, or for the first dose in a batch of doses. The size of the response as a percentage of the response to an earlier dose may be determined, particularly the first dose, and it may be that when
5 the percentage value falls to, or below, one of the percentage values specified herein the dosing holiday is begun.

In some cases, the response to a dose may be measured without any reference to earlier doses and simply the fact it falls below an expected value means a dosing holiday is initiated. Hence, in one instance, the method of the invention may comprise:
10 (a) administering a dose of anti-sclerostin antibody to a subject who has previously been administered anti-sclerostin antibody; (b) measuring the response to the dose; and (c) assessing whether the dose is lower than that expected. If the response is lower than that expected, for instance below a threshold, then a dosing holiday may be given. If the response to the test dose is not though reduced, then the method may optionally
15 comprise administering at least one further dose of the anti-sclerostin antibody to the subject and measuring until a reduced response is seen, then giving a dosing holiday. In some instances, it may be that the subject has already been administered at least three, four, five or six doses before the test dose.

A dosing holiday may include the administration of one or more test doses of
20 anti-sclerostin antibody, where the test dose is used to determine if the resistance displayed to the antibody has diminished or been eliminated. In particular, where the test dose is used to determine whether to terminate the dosing holiday and again begin treatment with the anti-sclerostin antibody or continue the dosing holiday. Hence, in some cases, it may be that the subject may be given a dosing holiday and the end of the
25 dosing holiday may be defined by when the subject displays an increased response to a test dose of anti-sclerostin antibody or, for instance, the subject displays resistance below a defined threshold, such as any of those mentioned herein.

In one case, the subject may be given a set pattern of a batch of at least two doses, followed by a set dosing holiday, without monitoring to determine when to
30 initiate the dosing holiday. Such fixed batches of doses and dosing holidays may be, for example, based on the disorder to be treated, age, gender and weight of the subject. In other instances, it may be that a suitable cycle of a batch of doses and dosing holiday is

determined on a particular cycle by monitoring and then adhered to on subsequent cycles to the same regimen.

In a preferred instance, where a test dose is given, what will be monitored, or how the response is defined, will be reference to a bone formation and/or resorption marker, including any of those referred to herein, particularly PINP levels. It may be that the level of the marker is measured before administration of the dose, then, for instance, four, five, six, seven, eight, ten, eleven or twelve days after administration of the test dose.

In some cases, rather than determining the response to an individual dose, it may be that any of the parameters referred to herein are measured during a course of treatment to determine if they are less than expected or show a slower, or less marked, increase in the marker. It may be that the subject is assessed clinically to determine whether the effect of the treatment is less and so that a dosing holiday may be of benefit. It may be that the subject has regular checks, such as about monthly, three monthly, four monthly, six monthly or yearly intervals and such checks entail checking or measuring the effect of the anti-sclerostin antibody and/or dosing holiday, for instance to decide whether to commence a dosing holiday.

In some cases the invention may be administered to a patient group thought to be displaying resistance to anti-sclerostin antibodies, or thought likely to display such resistance to the antibody. In some cases, the invention may be applied to a patient group displaying a higher than average resistance to anti-sclerostin antibodies. It may be that such a patient population is identified using monitoring, such any of the monitoring means discussed herein, particularly any of the markers discussed herein. Identification of such patients may entail administration of a test dose as described herein, followed by measurement of the response and assessment of whether the response seen is less than expected. It may be though that the patients are identified due to the fact that they have been receiving anti-sclerostin antibodies and the improvement initially seen has diminished. It may be that whilst the subject still shows an improvement in bone mineral density, that the improvement is less than first seen or would be expected for a naïve subject. Hence, whilst administration of anti-sclerostin antibody may still promote bone formation and/or inhibit resorption, the effect may be less pronounced. In one instance, the invention may be applied to a subject who has

been administered anti-sclerostin antibodies, but the treatment has been discontinued, particularly where the treatment has been discontinued because the subject is displaying a reduced response to the anti-sclerostin antibodies.

Any of the methods of the invention, and other aspects, may comprise first
5 assessing whether a subject is one displaying resistance to anti-sclerostin antibodies and then applying the invention if the subject does display such resistance. Hence, if such resistance is displayed, the invention may then entail allowing the subject a dosing holiday to reverse or reduce that resistance.

Some markers may display diurnal variation, i.e., display variation in their level
10 during the day. Hence, a marker may be measured at a specific time, or time period, in the day. In some instances, where a particular marker is measured more than once, it may be that the marker is measured each time at, or approximately at, the same time in the day, or in about a one hour, two hour, or three hour window. For instance, the marker may be consistently measured in the morning or consistently in the afternoon. In
15 one case, any of the markers measured herein may be measured in such a manner, particularly including those known to show diurnal variation. In some instances, P1NP levels may be measured in such a manner. In some cases, where a marker is measured and compared to a standard, or expected value, the value is measured at a time in the day, or time period, consistent with the standard or expected value.

20 *Doses*

The amount of anti-sclerostin antibody administered as an individual dose to the subject may, for instance, comprise at least about 70 mg of the anti-sclerostin antibody. For example, in various aspects, the amount of anti-sclerostin antibody administered is at least about 120 mg (e.g., 180 mg) or at least about 140 mg, e.g., at least about 210 mg
25 anti-sclerostin antibody. The amount of anti-sclerostin antibody administered may be, for instance, no more than about 350 mg anti-sclerostin antibody, e.g., no more than about 280 mg anti-sclerostin antibody (e.g., 270 mg), no more than about 210 mg of anti-sclerostin antibody, no more than about 140 mg anti-sclerostin antibody, or no more than about 120 mg anti-sclerostin antibody (e.g., about 120 mg of antibody). Put
30 another way, a single administration or dose of anti-sclerostin comprises, for example, no more than about 350 mg of the antibody.

In some instances, the subject is administered a dose of anti-sclerostin antibody in an amount of about 70 mg to about 350 mg, such as about 70 mg to about 280 mg, or about 120 mg to about 350 mg, or about 140 mg to about 350 mg, or about 210 mg to about 350 mg, or about 280 mg to about 350 mg. Optionally, a single dose of anti-sclerostin antibody comprises about 70 mg to about 210 mg of anti-sclerostin antibody, such as about 70 mg to about 120 mg (e.g., about 70 mg) anti-sclerostin antibody, or about 70 mg to about 140 mg of anti-sclerostin antibody, or about 120 mg to about 210 mg anti-sclerostin antibody, or about 120 mg to about 140 mg of anti-sclerostin antibody. Optionally, a single dose of anti-sclerostin antibody comprises about 140 mg to about 210 mg (e.g., about 140 mg or about 210 mg) of anti-sclerostin antibody.

In some instances, the dose administered is between about 0.1 to about 20 mg/kg, or about 0.1 to about 12 mg/kg, or about 0.5 to about 12 mg/kg, or about 1 to about 10 mg/kg, or about 1 to about 8 mg/kg, or about 2 to about 8 mg/kg, or about 3 to about 8 mg/kg. In some instances, a dose is about 1 mg/kg to about 10 mg/kg (e.g., about 2 mg/kg or about 9 mg/kg), about 1 mg/kg to about 3 mg/kg, or about 3 mg/kg to about 8 mg/kg (e.g., about 4 mg/kg, 5 mg/kg, 6 mg/kg, or 7 mg/kg). In the case of individuals with significantly lower or higher weight than average, it may some times be that the dose is calculated based on a per weight basis specifically for that subject.

In some instances, particularly where the interval between doses is short, it may be that a low dose is employed. For instance, a lower dose may be employed where an interval between doses of less than two weeks, such as less than one week, in particular any of the time periods specified herein shorter than a week, is employed. For example, in some cases, the dose may be any of the above specified doses of 2 mg/kg or under. In some cases, the dose may be about, or under, 1 mg/kg, 0.75 mg/kg, 0.5 mg/kg, 0.25 mg/kg or 0.1 mg/kg. In some instances, a fixed dose is administered, such as any of about 1 to about 50 mg, about 1 to about 25 mg, about 1 to about 10 mg, about 1 to about 5 mg or about 1 to about 3 mg. For example, a fixed dose of from about 2 to about 5 mg, about 2 to about 7 mg or about 3 to about 8 mg may be employed.

Reference herein to a single dose may include multiple contemporaneous injections be administered to achieve delivery of the dose. For instance, several injections within the space of an hour, day or week.

Typically, the subject will be administered a plurality of doses of anti-sclerostin antibody and in particular a batch of doses. In some instances, all of the doses within a batch will be approximately the same amount, or actually the same amount. In some instances, the doses administered in the different batches will be the same. In others, the dose may vary between different batches. For instance, it may be that the dose is varied according to how the patient is responding to the treatment.

Anti-Sclerostin Antibodies

Any suitable anti-sclerostin antibody may be employed in the present invention. The term "antibody" refers to an intact antibody, or a binding fragment thereof. An antibody may comprise a complete antibody (immunoglobulin) molecule (including polyclonal, monoclonal, chimeric, humanized, and/or human versions having full length heavy and/or light chains), or comprise an antigen binding fragment thereof. Antibody fragments include F(ab')₂, Fab, Fab', Fv, Fc, and Fd fragments, and can be incorporated into single domain antibodies (e.g., nanobodies), single-chain antibodies, maxibodies, minibodies, intrabodies, diabodies, triabodies, tetrabodies, v-NAR and bis-scFv (see, e.g., Hollinger and Hudson, *Nature Biotechnology*, 23(9):1126-1136 (2005)). Antibody polypeptides, including fibronectin polypeptide monobodies, also are disclosed in U.S. Patent No. 6,703,199. Other antibody polypeptides are disclosed in U.S. Patent Publication No. 20050238646. U.S. Patent Nos. 6,395,511 and 6,803,453, and U.S. Patent Publication Nos. 20040009535 and 20050106683 (incorporated in their entirety by reference for their disclosure of anti-sclerostin antibodies) refer to anti-sclerostin antibodies generally. The amino acid sequence of human sclerostin is set forth in SEQ ID NO: 1 of the Sequence Listing and is provided as SEQ ID NO: 1 of U.S. Patent Publication No. 20070110747 (which patent publication is incorporated in its entirety for its description of sclerostin and sclerostin binding agents and Sequence Listing). Sclerostin also is described in Brunkow et al., *Am. J. Hum. Genet.*, 68:577-589 (2001); and Balemans et al., *Hum. Mol. Genet.*, 10:537-543 (2001). Additional information regarding materials and methods for generating anti-sclerostin antibodies can be found in U.S. Patent Publication No. 20040158045 (hereby incorporated by reference in its entirety).

An antibody fragment may be any synthetic or genetically engineered protein. For example, antibody fragments include isolated fragments consisting of the light chain

variable region, "Fv" fragments consisting of the variable regions of the heavy and light chains, and recombinant single chain polypeptide molecules in which light and heavy variable regions are connected by a peptide linker (scFv proteins).

The antibody may be any class of antibody, but in a preferred instance the
5 antibody is an IgG antibody.

Another form of an antibody fragment is a peptide comprising one or more complementarity determining regions (CDRs) of an antibody. CDRs (also termed "minimal recognition units" or "hypervariable region") can be obtained by constructing polynucleotides that encode the CDR of interest. Such polynucleotides are prepared, for
10 example, by using the polymerase chain reaction to synthesize the variable region using mRNA of antibody-producing cells as a template (see, for example, Larrick et al., *Methods: A Companion to Methods in Enzymology*, 2:106 (1991); Courtenay-Luck, "Genetic Manipulation of Monoclonal Antibodies," in *Monoclonal Antibodies Production, Engineering and Clinical Application*, Ritter et al. (eds.), page 166,
15 Cambridge University Press (1995); and Ward et al., "Genetic Manipulation and Expression of Antibodies," in *Monoclonal Antibodies: Principles and Applications*, Birch et al., (eds.), page 137, Wiley-Liss, Inc. (1995)).

Anti-sclerostin antibodies may, for instance, bind to sclerostin of SEQ ID NO: 1, or a naturally occurring variant thereof, with an affinity (Kd) of less than or equal to 1×10^{-7} M, less than or equal to 1×10^{-8} M, less than or equal to 1×10^{-9} M, less than or
20 equal to 1×10^{-10} M, less than or equal to 1×10^{-11} M, or less than or equal to 1×10^{-12} M. Affinity is determined using a variety of techniques, an example of which is an affinity ELISA assay. In various embodiments, affinity is determined by a BIAcore assay (a surface plasmon resonance assay). In various embodiments, affinity is
25 determined by a kinetic method. In various embodiments, affinity is determined by an equilibrium/solution method. U.S. Patent Publication No. 20070110747 contains additional description of affinity assays suitable for determining the affinity (Kd) of an antibody for sclerostin.

Anti-sclerostin antibodies for use in the inventive method preferably modulate
30 sclerostin function in the cell-based assay described in U.S. Patent Publication No. 20070110747 and/or the *in vivo* assay described in U.S. Patent Publication No. 20070110747 and/or bind to one or more of the epitopes described in U.S. Patent

Publication No. 20070110747 and/or cross-block the binding of one of the antibodies described in U.S. Patent Publication No. 20070110747 and/or are cross-blocked from binding sclerostin by one of the antibodies described in U.S. Patent Publication No. 20070110747 (incorporated by reference in its entirety and for its description of assays
 5 for characterizing an anti-sclerostin antibody).

In various embodiments, the anti-sclerostin antibody binds to a sclerostin polypeptide comprising the amino acid sequence set forth in SEQ ID NO: 1 of the Sequence Listing and binds the sequence of SEQ ID NO: 6 (C4GPARLLPNAIGRGKWWRPSGPDFRC5; corresponding to amino acids 86-111 of
 10 SEQ ID NO: 1). Alternatively, or in addition, the anti-sclerostin antibody binds to a sclerostin polypeptide comprising the amino acid sequence set forth in SEQ ID NO: 1 and binds the sequence of at least one of SEQ ID NO: 2 (DVSEYSC1RELHFTR; corresponding to amino acids 51-64 of SEQ ID NO: 1), SEQ ID NO: 3 (SAKPVTELVLC3SGQC4GPAR; corresponding to amino acids 73-90 of SEQ ID NO:
 15 1), SEQ ID NO: 4 (WWRPSGPDFRC5IPDRYR; corresponding to amino acids 101-117 of SEQ ID NO: 1), SEQ ID NO: 5 (LVASC7KC8KRLTR; corresponding to amino acids 138-149 of SEQ ID NO: 1), SEQ ID NO: 70 (SAKPVTELVLC3SGQC4; corresponding to amino acids 73-86 of SEQ ID NO: 1), SEQ ID NO: 71 (LVASC7KC8; corresponding to amino acids 138-144 of SEQ ID NO: 1), SEQ ID NO: 72 (C1RELHFTR; corresponding to amino acids 57-64 of SEQ ID NO: 1), or SEQ ID NO:
 20 73 (C5IPDRYR; corresponding to amino acids 111-117 of SEQ ID NO: 1) within SEQ ID NO: 1. For example, in one aspect, the anti-sclerostin antibody binds a subregion of sclerostin of SEQ ID NO: 1 comprising SEQ ID NOs: 2-5 (and/or SEQ ID NOs: 70-73), optionally in its native three-dimensional conformation. Optionally, the anti-sclerostin
 25 antibody binds a peptide consisting of one or more of SEQ ID NO: 2, SEQ ID NO: 3, SEQ ID NO: 4, SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 70, SEQ ID NO: 71, SEQ ID NO: 72, or SEQ ID NO: 73 of the Sequence Listing (e.g., a peptide consisting of SEQ ID NO: 2, SEQ ID NO: 3, SEQ ID NO: 4, and SEQ ID NO: 5 or a peptide consisting of SEQ ID NO: 70, SEQ ID NO: 71, SEQ ID NO: 72, and SEQ ID NO: 73).

30 In various aspects, the anti-sclerostin antibody is capable of neutralizing human sclerostin in a MC3T3 cell-based mineralization assay when there is less than a 6-fold excess of moles of sclerostin binding sites per well as compared to the number of moles

of sclerostin per well. Mineralization by osteoblast-lineage cells in culture, either primary cells or cell lines, is used as an *in vitro* model of bone formation. An exemplary cell-based mineralization assay is described in U.S. Patent Publication No. 20070110747 at, e.g., Example 8 (hereby incorporated by reference). MC3T3-E1 cells
5 (Sudo *et al.*, *J. Cell Biol.*, 96:191-198 (1983)) and subclones of the original cell line can form mineral in culture upon growth in the presence of differentiating agents. Such subclones include MC3T3-E1-BF (Smith *et al.*, *J. Biol. Chem.*, 275:19992-20001 (2000)). For both the MC3T3-E1-BF subclone as well as the original MC3T3-E1 cells, sclerostin can inhibit one or more of the sequence of events leading up to and including
10 mineral deposition (i.e., sclerostin inhibits mineralization). Anti-sclerostin antibodies that are able to neutralize sclerostin's inhibitory activity allow for mineralization of the culture in the presence of sclerostin such that there is a statistically significant increase in, e.g., deposition of calcium phosphate (measured as calcium) as compared to the amount of calcium measured in the sclerostin-only (i.e., no antibody) treatment group.

15 When running the assay with the goal of determining whether a particular anti-sclerostin antibody can neutralize sclerostin, the amount of sclerostin used in the assay desirably is the minimum amount of sclerostin that causes at least a 70%, statistically significant, reduction in deposition of calcium phosphate (measured as calcium) in the sclerostin-only group, as compared to the amount of calcium measured in the no
20 sclerostin group. An anti-sclerostin neutralizing antibody is defined as one that causes a statistically significant increase in deposition of calcium phosphate (measured as calcium) as compared to the amount of calcium measured in the sclerostin-only (i.e., no antibody) treatment group. To determine whether an anti-sclerostin antibody is neutralizing or not, the amount of anti-sclerostin antibody used in the assay needs to be
25 such that there is an excess of moles of sclerostin binding sites per well as compared to the number of moles of sclerostin per well. Depending on the potency of the antibody, the fold excess that may be required can be 24, 18, 12, 6, 3, or 1.5, and one of skill is familiar with the routine practice of testing more than one concentration of binding agent (antibody). For example, a very potent anti-sclerostin neutralizing antibody will
30 neutralize sclerostin when there is less than a 6-fold excess of moles of sclerostin binding sites per well as compared to the number of moles of sclerostin per well. A less potent anti-sclerostin neutralizing antibody will neutralize sclerostin only at a 12, 18 or 24 fold excess.

The anti-sclerostin antibody optionally has an IC_{50} of 100 nM or less, or 75 nM or less, or 50 nM or less, or 25 nM or less for neutralizing human sclerostin in a cell-based assay, such as a bone specific alkaline phosphatase assay, e.g., the bone specific alkaline phosphatase assay described in International Patent Publication No. WO 2008/115732 and U.S. Patent No. 7,744,874 (incorporated herein by reference in its entirety for its description of cell-based assays and anti-sclerostin antibodies). The bone specific alkaline phosphatase assay is predicated on the ability of sclerostin to decrease BMP-4 and Wnt3a-stimulated alkaline phosphatase levels in the multipotential murine cell line, C2C12. According to WO 2008/115732, a neutralizing anti-sclerostin antibody mediates a dose-dependent increase of alkaline phosphatase activity in this assay.

Alternatively or in addition, the anti-sclerostin antibody has an IC_{50} of 100 nM or less (e.g., 75 nM or less, or 50 nM or less) for neutralizing human sclerostin in a cell-based Wnt signalling assay in HEK293 cell lines, such as the Wnt assay involving Wnt1-mediated induction of STF reporter gene described in, e.g., International Patent Publication No. WO 2009/047356 (incorporated by reference for its discussion of anti-sclerostin antibodies and cell-based assays). Alternatively or in addition, the anti-sclerostin antibody has an IC_{50} of 500 nM or less (e.g., 250 nM or less, 150 nM or less, 100 nM or less, or 50 nM or less) for neutralizing human sclerostin in a BMP2-induced mineralization assay in MC3T3 cells, such as the mineralization assay described in, e.g., International Patent Publication No. WO 2009/047356.

Examples of anti-sclerostin antibodies suitable for use in the context of the invention are described in U.S. Patent Publication Nos. 20070110747 and 20070072797, which are hereby incorporated by reference. In one embodiment of the invention, the anti-sclerostin antibody cross-blocks the binding of at least one of antibodies Ab-A, Ab-B, Ab-C, Ab-D, Ab-1, Ab-2, Ab-3, Ab-4, Ab-5, Ab-6, Ab-7, Ab-8, Ab-9, Ab-10, Ab-11, Ab-12, Ab-13, Ab-14, Ab-15, Ab-16, Ab-17, Ab-18, Ab-19, Ab-20, Ab-21, Ab-22, Ab-23, or Ab-24 (all of which are described in U.S. Patent Publication No. 20070110747) to sclerostin. Alternatively or in addition, the anti-sclerostin antibody is cross-blocked from binding to sclerostin by at least one of antibodies Ab-A, Ab-B, Ab-C, Ab-D, Ab-1, Ab-2, Ab-3, Ab-4, Ab-5, Ab-6, Ab-7, Ab-8, Ab-9, Ab-10, Ab-11, Ab-12, Ab-13, Ab-14, Ab-15, Ab-16, Ab-17, Ab-18, Ab-19,

Ab-20, Ab-21, Ab-22, Ab-23, or Ab-24 (all of which are described in U.S. Patent Publication No. 20070110747). The terms "cross-block," "cross-blocked," and "cross-blocking" are used interchangeably herein to mean the ability of an antibody to interfere with the binding of other antibodies to sclerostin. The extent to which an antibody is able to interfere with the binding of another to sclerostin, and therefore whether it can be said to cross-block, can be determined using competition binding assays. In some aspects of the invention, a cross-blocking antibody or fragment thereof reduces sclerostin binding of a reference antibody between about 40% and about 100%, such as about 60% and about 100%, specifically between 70% and 100%, and more specifically between 80% and 100%. A particularly suitable quantitative assay for detecting cross-blocking uses a Biacore machine which measures the extent of interactions using surface plasmon resonance technology. Another suitable quantitative cross-blocking assay uses an ELISA-based approach to measure competition between antibodies in terms of their binding to sclerostin.

Examples of suitable anti-sclerostin antibodies and fragments thereof include antibodies and antibody fragments having one or more of CDR-H1, CDR-H2, CDR-H3, CDR-L1, CDR-L2 and CDR-L3 specifically disclosed in U.S. Patent Publication No. 20070110747. At least one of the regions of CDR-H1, CDR-H2, CDR-H3, CDR-L1, CDR-L2, and CDR-L3 may have at least one amino acid substitution, provided that the antibody retains the binding specificity of the non-substituted CDR. Preferably, the anti-sclerostin antibody is Ab-A, Ab-B, Ab-C, Ab-D, Ab-1, Ab-2, Ab-3, Ab-4, Ab-5, Ab-6, Ab-7, Ab-8, Ab-9, Ab-10, Ab-11, Ab-12, Ab-13, Ab-14, Ab-15, Ab-16, Ab-17, Ab-18, Ab-19, Ab-20, Ab-21, Ab-22, Ab-23, or Ab-24 of U.S. Patent Publication No. 20070110747.

In addition, the anti-sclerostin antibody can comprise at least one CDR sequence having at least 75% identity (e.g., 100% identity) to a CDR selected from SEQ ID NOs: 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 78, 79, 80, 81, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298,

351, 352, 353, 358, 359, and 360 provided in the Sequence Listing and disclosed in U.S. Patent Publication No. 20070110747. Preferably, the anti-sclerostin antibody comprises at least one CDR sequence having at least 75% identity to a CDR selected from SEQ ID NOs: 245, 246, 247, 78, 79, 80, 269, 270, 271, 239, 240, and 241, all of which is

5 provided in the Sequence Listing and described in U.S. Patent Publication No. 20070110747. As described in U.S. Patent Publication No. 20070110747, the anti-sclerostin antibody can comprise: a) CDR sequences of SEQ ID NOs:54, 55, and 56 and CDR sequences of SEQ ID NOs:51, 52, and 53; b) CDR sequences of SEQ ID NOs:60, 61, and 62 and CDR sequences of SEQ ID NOs:57, 58, and 59; c) CDR sequences of

10 SEQ ID NOs:48, 49, and 50 and CDR sequences of SEQ ID NOs:45, 46, and 47; d) CDR sequences of SEQ ID NOs:42, 43, and 44 and CDR sequences of SEQ ID NOs:39, 40, and 41; e) CDR sequences of SEQ ID NOs:275, 276, and 277 and CDR sequences of SEQ ID NOs:287, 288, and 289; f) CDR sequences of SEQ ID NOs:278, 279, and 280 and CDR sequences of SEQ ID NOs:290, 291, and 292; g) CDR sequences of SEQ

15 ID NOs:78, 79, and 80 and CDR sequences of SEQ ID NOs: 245, 246, and 247; h) CDR sequences of SEQ ID NOs:81, 99, and 100 and CDR sequences of SEQ ID NOs:248, 249, and 250; i) CDR sequences of SEQ ID NOs:101, 102, and 103 and CDR sequences of SEQ ID NOs:251, 252, and 253; j) CDR sequences of SEQ ID NOs:104, 105, and 106 and CDR sequences of SEQ ID NOs:254, 255, and 256; k) CDR sequences of SEQ

20 ID NOs:107, 108, and 109 and CDR sequences of SEQ ID NOs:257, 258, and 259; l) CDR sequences of SEQ ID NOs:110, 111, and 112 and CDR sequences of SEQ ID NOs:260, 261, and 262; m) CDR sequences of SEQ ID NOs:281, 282, and 283 and CDR sequences of SEQ ID NOs:293, 294, and 295; n) CDR sequences of SEQ ID NOs:113, 114, and 115 and CDR sequences of SEQ ID NOs:263, 264, and 265; o) CDR

25 sequences of SEQ ID NOs:284, 285, and 286 and CDR sequences of SEQ ID NOs:296, 297, and 298; p) CDR sequences of SEQ ID NOs:116, 237, and 238 and CDR sequences of SEQ ID NOs:266, 267, and 268; q) CDR sequences of SEQ ID NOs:239, 240, and 241 and CDR sequences of SEQ ID NOs:269, 270, and 271; r) CDR sequences of SEQ ID NOs:242, 243, and 244 and CDR sequences of SEQ ID NOs:272, 273, and

30 274; or s) CDR sequences of SEQ ID NOs:351, 352, and 353 and CDR sequences of SEQ ID NOs:358, 359, and 360.

The anti-sclerostin antibody also can comprise at least one CDR sequence having at least 75% identity (e.g., 100% identical) to a CDR selected from CDR-H1,

CDR-H2, CDR-H3, CDR-L1, CDR-L2, and CDR-L3 wherein CDR-H1 has the sequence given in SEQ ID NO: 245, CDR-H2 has the sequence given in SEQ ID NO: 246, CDR-H3 has the sequence given in SEQ ID NO: 247, CDR-L1 has the sequence given in SEQ ID NO: 78, CDR-L2 has the sequence given in SEQ ID NO: 79 and CDR-L3 has the sequence given in SEQ ID NO: 80, all of which is provided in the Sequence Listing and described in U.S. Patent Publication No. 20070110747. The anti-sclerostin antibody, in various aspects, comprises two of the CDRs or six of the CDRs. Optionally, the anti-sclerostin antibody comprises heavy chains comprising SEQ ID NO: 378 and light chains comprising SEQ ID NO 376 provided in the Sequence Listing.

10 The anti-sclerostin antibody also can comprise at least one CDR sequence having at least 75% identity (e.g., 100% identical) to a CDR selected from CDR-H1, CDR-H2, CDR-H3, CDR-L1, CDR-L2, and CDR-L3 wherein CDR-H1 has the sequence given in SEQ ID NO: 269, CDR-H2 has the sequence given in SEQ ID NO: 270, CDR-H3 has the sequence given in SEQ ID NO: 271, CDR-L1 has the sequence given in SEQ ID NO: 239, CDR-L2 has the sequence given in SEQ ID NO: 240 and CDR-L3 has the sequence given in SEQ ID NO 241, all of which is provided in the Sequence Listing and described in U.S. Patent Publication No. 20070110747. The anti-sclerostin antibody, in various aspects, comprises two of the CDRs or six of the CDRs. Optionally, the anti-sclerostin antibody comprises heavy chains comprising SEQ ID NO: 366 and light chains comprising SEQ ID NO 364 provided in the Sequence Listing.

Alternatively, the anti-sclerostin antibody can have a heavy chain comprising CDR's H1, H2, and H3 and comprising a polypeptide having the sequence provided in SEQ ID NO: 137 or a variant thereof in which said CDR's are at least 75% identical (e.g., 100% identical) to SEQ ID NO: 245, 246, and 247, respectively, and a light chain comprising CDR's L1, L2 and L3 and comprising a polypeptide having the sequence provided in SEQ ID NO: 133 or a variant thereof in which said CDR's are at least 75% identical (e.g., 100% identical) to SEQ ID NO: 78, 79, and 80, respectively (as described in U.S. Patent Publication No. 20070110747).

The anti-sclerostin antibody may have a heavy chain comprising CDR's H1, H2, and H3 and comprising a polypeptide having the sequence provided in SEQ ID NO: 145 or 392 or a variant thereof in which said CDR's are at least 75% identical (e.g., 100% identical) to SEQ ID NO: 245, 246, and 247, respectively, and a light chain comprising

CDR's L1, L2, and L3 and comprising a polypeptide having the sequence provided in SEQ ID NO: 141 or a variant thereof in which said CDR's are at least 75% identical (e.g., 100% identical) to SEQ ID NO: 78, 79, and 80, respectively (as described in U.S. Patent Publication No. 20070110747).

5 The anti-sclerostin antibody may have a heavy chain comprising CDR's H1, H2, and H3 and comprising a polypeptide having the sequence provided in SEQ ID NO: 335, 331, 345, or 396 (provided in the Sequence Listing) or a variant of any of the foregoing in which said CDR's are at least 75% (e.g., 100% identical) identical to SEQ ID NO: 269, 270, and 271, respectively, and a light chain comprising CDR's L1, L2,
10 and L3 and comprising a polypeptide having the sequence provided in SEQ ID NO: 334 or 341 (provided in the Sequence Listing) or a variant of any of the foregoing in which said CDR's are at least 75% identical (e.g., 100% identical) to SEQ ID NO: 239, 240, and 241, respectively (as described in U.S. Patent Publication No. 20070110747). All combinations of the heavy and light chain sequences are contemplated (e.g., heavy
15 chains comprising SEQ ID NO: 335 and light chains comprising SEQ ID NO: 334; heavy chains comprising SEQ ID NO: 331 and light chains comprising SEQ ID NO: 334 or 341; and heavy chains comprising SEQ ID NO: 345 or 396 and light chains comprising SEQ ID NO: 341).

 Alternatively, the anti-sclerostin antibody has a heavy chain comprising a
20 polypeptide having the sequence provided in SEQ ID NO:137, and a light chain comprising a polypeptide having the sequence provided in SEQ ID NO:133; a heavy chain comprising a polypeptide having the sequence provided in SEQ ID NO:145 or 392, and a light chain comprising a polypeptide having the sequence provided in SEQ ID NO: 141; a heavy chain comprising a polypeptide having the sequence provided in
25 SEQ ID NO:335, and a light chain comprising a polypeptide having the sequence provided in SEQ ID NO:334; a heavy chain comprising a polypeptide having the sequence provided in SEQ ID NO:331, and a light chain comprising a polypeptide having the sequence provided in SEQ ID NO:341; or a heavy chain comprising a polypeptide having the sequence provided in SEQ ID NO:345 or 396, and a light chain
30 comprising a polypeptide having the sequence provided in SEQ ID NO:341 (provided in the Sequence Listing and as described in U.S. Patent Publication No. 20070110747).

Examples of anti-sclerostin antibodies also include, but are not limited to, the anti-sclerostin antibodies disclosed in International Patent Publication Nos. WO 2008/092894, WO 2008/115732, WO 2009/056634, WO 2009/047356, WO 2010/100200, WO 2010/100179, WO 2010/115932, and WO 2010/130830 (each of which is incorporated by reference herein in its entirety), such as an anti-sclerostin antibody comprising CDRs of SEQ ID NOs: 20-25 of International Patent Publication No. WO 2008/115732 (Figure 8), an anti-sclerostin antibody comprising CDRs of SEQ ID NOs: 26-31 of International Patent Publication No. WO 2008/115732 (Figure 8), an anti-sclerostin antibody comprising CDRs of SEQ ID NOs: 32-37 of International Patent Publication No. WO 2008/115732 (Figure 8), an anti-sclerostin antibody comprising CDRs of SEQ ID NOs: 4, 15, 26, 37, 48, and 59 of International Patent Publication No. WO 2009/047356 (Figure 9), or an anti-sclerostin antibody comprising the amino acid sequence of at least one of SEQ ID NOs: 135-143, 153-161, or 171-179 of International Patent Publication No. WO 2010/130830 (Figure 10).

In one instance, the antibody employed comprises CDRs of SEQ ID NOs: 20-25 of International Patent Publication No. WO 2008/115732 (Figure 8), CDRs of SEQ ID NOs: 26-31 of International Patent Publication No. WO 2008/115732 (Figure 8), or CDRs of SEQ ID NOs: 32-37 of International Patent Publication No. WO 2008/115732 (Figure 8). In another instance, the antibody comprises CDRs of SEQ ID NOs: 4, 15, 26, 37, 48, and 59 of International Patent Publication No. WO 2009/047356 (Figure 9). In a further instance, the antibody comprises the amino acid sequence of at least one of SEQ ID NOs: 135-143, 153-161, or 171-179 of International Patent Publication No. WO 2010/130830 (Figure 10). The disclosure of WO 2008/115732, WO 2009/047356 and WO 2010/130830 is incorporated herein in its entirety, including specifically the referenced CDR sequences and description of antibodies comprising the CDR sequences.

In one instance, the antibody employed may be an antibody capable of cross-blocking any of those antibodies specified herein and in particular an antibody that cross-blocks any of Ab-13, Ab-C and Ab-D referred to herein. In this regard, the anti-sclerostin antibody optionally cross-blocks the binding of a second antibody to sclerostin of SEQ ID NO: 1 or is cross-blocked from binding to sclerostin of SEQ ID NO: 1 by the second antibody, wherein the second antibody comprises light chains

comprising the amino acid sequence set forth in SEQ ID NO: 205 and heavy chains comprising the amino acid sequence set forth in SEQ ID NO: 209; light chains comprising the amino acid sequence set forth in SEQ ID NO: 15 and heavy chains comprising the amino acid sequence set forth in SEQ ID NO: 19; or light chains comprising the amino acid sequence set forth in SEQ ID NO: 7 and heavy chains comprising the amino acid sequence set forth in SEQ ID NO: 11 (provided in the Sequence Listing).

Additional treatments for bone disorders

In some instances, the subject may be administered an additional agent to treat their bone disorder. The subject may be, for instance, treated with any other therapy for treating bone disorders. For example, the additional treatment may be at the same time, overlapping with, or alternating with, the anti-sclerostin antibody treatment of the invention. In one instance, the subject may be administered vitamin D.

In one preferred instance, the second therapeutic agent is given in the dosing holiday for the anti-sclerostin antibody. Hence, whilst the dosing holiday allows resistance to the anti-sclerostin antibody to diminish, the subject is treated with the second therapeutic agent in the dosing holiday. Alternating treatments in that way may, in some instances, helps avoid possible detrimental effects associated with giving the other treatment for an extended, unbroken, period.

In one instance, the other therapeutic agent may be a bone resorption inhibitor. For instance, any suitable anti-resorptive may be employed. In one preferred instance, the bone resorption inhibitor is a bisphosphonate, particularly a nitrogen containing bisphosphonate. Examples of bisphosphonates include, but are not limited to, Alendronate, bonefos ciodronate, etidronate, ibandronic acid, olpadronate, neridronate, risedronate sodium, skelid, and zoledronic acid. In one preferred instance, the bisphosphonate is zoledronic acid. Bisphosphonates which may be employed include, for instance, ActonelTM, AclastaTM/ReclastTM, BonivaTM/BonvivaTM, FosamaxTM, and ZometaTM. An advantage of alternating between the anti-sclerostin antibody and bisphosphonate is that it may help avoid possible side effects arising from the subject being treated with bisphosphonates for a prolonged period. Hence, alternating helps avoid such side-effects, whilst also addressing the problem of resistance developing to the antibody.

Selected estrogen receptor modulators may be employed as bone resorption inhibitors, for instance, arzoxifene, bazedoxifene, FC 1271, lasofoxifene, raloxifene, and Tibolone are examples of suitable SERMs. Other bone resorption inhibitors which may be used include estrogen and calcitonin, with examples of calcitonin including
5 salmon calcitonins, such as MiacalcinTM.

Strontium compounds may be employed as the bone resorption inhibitor and in one particular instance the compound is strontium ranelate. In other instances, the additional treatment administered may be PTH, in particular recombinant parathyroid hormone releasing peptide.

10 In various embodiments, the bone resorption inhibitor is a RANKL inhibitor, such as an anti-RANKL antibody. In one preferred instance, the bone resorption inhibitor employed may be denosumab.

In some instances the anti-resorptive employed is not a bisphosphonate. Examples, of such agents which may be employed include PROLIA®, calcitonin, and
15 cathepsin K inhibitors (e.g., odanacatib).

In various embodiments, the second therapeutic agent is an anabolic agent, such as parathyroid hormone or analogs thereof (e.g., teriparatide (FORTEO®)).

In one case, a bone resorption inhibitor may be administered at the same time, or approximately the same time, as the antibody, or so the two therapies overlap. It may
20 be that the bone resorption inhibitor is given to help prolong further the effect of the anti-sclerostin antibody by reducing the breakdown of bone that the antibody has stimulated and in particular where the compound is a bisphosphonate.

Disorders to be treated

The invention is typically used to treat or help prevent a bone disorder. The
25 invention may be, for example, employed to increase at least one of bone formation, bone mineral density, bone mineral content, bone mass, bone quality and bone strength. Hence, in one instance, the disorder to be treated via the invention is a bone disorder associated with at least one of low bone formation, low bone mineral density, low bone mineral content, low bone mass, low bone quality and low bone strength in a
30 mammalian subject.

The disorder may be a bone-related disorder associated with abnormal osteoblast or osteoclast activity. Examples of disorders associated with bone loss which may be treated include achondroplasia, cleidocranial dysostosis, enchondromatosis, fibrous dysplasia, Gaucher's Disease, hypophosphatemic rickets, Marfan's syndrome, multiple hereditary exotoses, neurofibromatosis, osteogenesis imperfecta, osteopetrosis, osteopoikilosis, sclerotic lesions, pseudoarthrosis, pyogenic osteomyelitis, periodontal disease, anti-epileptic drug induced bone loss, primary and secondary hyperparathyroidism, familial hyperparathyroidism syndromes, weightlessness induced bone loss, osteoporosis in men, postmenopausal bone loss, osteoarthritis, renal osteodystrophy, infiltrative disorders of bone, oral bone loss, osteonecrosis of the jaw, juvenile Paget's disease, melorheostosis, metabolic bone diseases, mastocytosis, sickle cell anemia/disease, organ transplant related bone loss, kidney transplant related bone loss, systemic lupus erythematosus, ankylosing spondylitis, epilepsy, juvenile arthritides, thalassemia, mucopolysaccharidoses, Fabry Disease, Turner Syndrome, Down Syndrome, Klinefelter Syndrome, leprosy, Perthe's Disease, adolescent idiopathic scoliosis, infantile onset multi-system inflammatory disease, Winchester Syndrome, Menkes Disease, Wilson's Disease, ischemic bone disease (such as Legg-Calve-Perthes disease and regional migratory osteoporosis), anemic states, conditions caused by steroids, glucocorticoid-induced bone loss, heparin-induced bone loss, bone marrow disorders, scurvy, malnutrition, calcium deficiency, osteoporosis, osteopenia, alcoholism, chronic liver disease, postmenopausal state, chronic inflammatory conditions, rheumatoid arthritis, inflammatory bowel disease, ulcerative colitis, inflammatory colitis, Crohn's disease, oligomenorrhea, amenorrhea, diabetes mellitus, hyperthyroidism, thyroid disorders, parathyroid disorders, Cushing's disease, acromegaly, hypogonadism, immobilization or disuse, reflex sympathetic dystrophy syndrome, regional osteoporosis, osteomalacia, bone loss associated with joint replacement, HIV associated bone loss, bone loss associated with loss of growth hormone, bone loss associated with cystic fibrosis, chemotherapy-associated bone loss, tumor-induced bone loss, cancer-related bone loss, hormone ablative bone loss, multiple myeloma, drug-induced bone loss, anorexia nervosa, disease-associated facial bone loss, disease-associated cranial bone loss, disease-associated bone loss of the jaw, disease-associated bone loss of the skull, bone loss associated with aging, facial bone loss associated with aging, cranial bone loss associated with aging, jaw bone loss associated

with aging, skull bone loss associated with aging, and bone loss associated with space travel. Bone loss, decreased bone mineral density, decreased bone volume, and/or decreased bone mineral content associated with these disorders may be treated in the context of the invention. In one instance, the subject to be treated may be pregnant. For instance, the invention may be employed to help in pregnancy-related bone loss. The invention may be used to slow, or reverse, bone loss in general.

In one instance, the condition to be treated is not bone fracture. In one particularly preferred instance, the condition to be treated is osteoporosis or osteopenia. In one instance, the subject to be treated is a postmenopausal woman, for instance, one with osteoporosis, particularly such a subject who is at increased, or high risk, for fracture, or has failed or is intolerant to other available osteoporosis therapy. In further instances, the invention may be employed in improving the outcome in a mammal undergoing one or more of an orthopedic procedure, dental procedure, implant surgery, joint replacement, bone grafting, bone cosmetic surgery and bone repair such as fracture healing, nonunion healing, delayed union healing and facial reconstruction.

Administration

Various routes of administering an antibody to a subject are known in the art and discussed in, e.g., U.S. Patent Publication No. 20070110747. For example, in various embodiments, it is desirable to deliver a pharmaceutical composition comprising the anti-sclerostin antibody subcutaneously, parenterally, intravenously, intramuscularly, or even intraperitoneally. Such approaches are well known to the skilled artisan, some of which are further described, for example, in U.S. Patent Nos. 5,543,158; 5,641,515; and 5,399,363. Optionally, the anti-sclerostin antibody is administered subcutaneously.

Illustrative physiologically-acceptable (e.g., pharmaceutical) forms suitable for use include sterile aqueous solutions or dispersions and sterile powders for the extemporaneous preparation of sterile injectable solutions or dispersions (for example, see U.S. Patent No. 5,466,468). The form must be sterile and is desirably fluid to the extent that easy syringability exists (i.e., is not excessively viscous so as to prevent passage through a syringe). A pharmaceutical composition comprising the anti-sclerostin antibody may be placed within containers (e.g., vials or syringes), along with packaging material that provides instructions regarding the use of such pharmaceutical compositions. Generally, such instructions will include a tangible expression describing

the reagent concentration, as well as within certain embodiments, relative amounts of excipient ingredients or diluents (e.g., water, saline or PBS) that may be necessary to reconstitute the pharmaceutical composition. In one instance, where the antibody is to be administered with an additional treatment for the bone disorder, the two may be formulated or packaged together, optionally with instructions setting out a method of the invention.

All of the references cited herein, including patents, patent applications, literature publications, and the like, are hereby incorporated by reference.

While this invention has been described with an emphasis upon preferred embodiments, it will be obvious to those of ordinary skill in the art that variations of the preferred compounds and methods may be used and that it is intended that the invention may be practiced otherwise than as specifically described herein. Accordingly, this invention includes all modifications encompassed within the spirit and scope of the invention as defined by the following claims.

The invention is further described in the following examples. The example serves only to illustrate the invention and is not intended to limit the scope of the invention in any way.

EXAMPLES

20

MATERIALS AND METHODS

Animals

Balb/c female mice obtained from Charles River UK (8-10 weeks of age at the start of the experiments) were maintained and studied in a manner in compliance with UK Home Office regulations.

25

The antibody employed in the present Examples was Scl-AbI (Eddleston *et al*, 2009, *J Bone Miner Res*, 24:1662-71 – which is incorporated herein in its entirety). Scl-AbI was dosed at 10 mg/kg subcutaneously (control animals received PBS) at the time points showed in the Figures. Blood samples (tail tip bleeds) were taken mid-morning where indicated and frozen at -20°C until assayed. At certain time points terminal blood samples were removed from euthanized animals to provide larger blood samples for assay.

30

Measurement of P1NP

P1NP was measured using a kit supplied ImmunoDiagnostic Systems (catalogue no. AC-33F1) according to the manufacturers recommended method.

Measurement of BMD

- 5 Animals were anesthetized by isofluorane inhalation. After being placed under general anesthesia, the mice were scanned on a Lunar PIXImus (GE Medical Systems) at the times shown.

RESULTS

10 *Determining P1NP peak levels following dosing*

A preliminary experiment established that, following a subcutaneous dose of the anti-sclerostin antibody (10mg/kg), peak P1NP levels were seen at day 4. This time point was used to monitor the P1NP response in animals subject to multiple doses of Scl-Ab, as discussed further below.

- 15 Figure 1 shows the results of the preliminary experiment. P1NP levels for two mice dosed subcutaneously with 10 mg/kg of anti-sclerostin on day 0 are shown (square and diamond symbols). The kinetics of Scl-AbI following a single subcutaneous dose of 10 mg/kg are also shown in Figure 1 (triangular symbols).

Multiple dosing experiments

- 20 Three groups of mice were established, the first group of mice (group A, n= 10) was dosed with PBS on days 0, 7, 14, 21 and 28. The second group of mice (group B, n =20) was dosed with Scl-AbI (10 mg/kg, s.c.) on days 0, 7, 14, 21, and 28. The third group of mice (group C) provided a pool of aged matched control animals to determine the P1NP response in mice that had not previously been exposed to Scl-AbI.

- 25 Mice in group C were generally dosed with PBS on the same schedule as animals in groups A and B, except that on days 14 and 28 a subgroup of mice from group C (n = 5 at each time point) were dosed with Scl-AbI (10 mg/kg s.c.) and the circulating P1NP levels measured 4 days later. These subgroups allowed assessment of the P1NP response in animals that were aged matched with the animals in group B, but
30 were receiving Scl-AbI for the first time (as opposed to the repeat dosing of group B animals).

Blood samples were taken on days 0, 14, 18, 28 and 32 and circulating P1NP levels measured. Figure 2 shows the P1NP levels in the different groups of animals. The

results for group A (diamond symbols), group B (square symbols) and the subgroup of group C receiving the antibody at day 14 or 28 (triangular symbols) are shown in Figure 2.

Figure 2 illustrates a number of points. Firstly, P1NP levels in the PBS treated group (group A) fall with time. As the rate of bone synthesis would be expected to fall with age in the control group, that result was not unexpected. Secondly, the P1NP levels in group B mice (the group receiving multiple doses of Scl-AbI) at day 18 and day 32 (both time points are 4 days after receiving a dose of Scl-Ab) are significantly lower than the levels in mice from group C dosed with Scl-AbI (for the first time) at the same time points. This indicates that the P1NP response in mice receiving multiple doses of Scl-Ab (group B) is blunted compared with the response seen in age-matched mice dosed with Scl-Ab for the first time.

In order to determine if the result seen was due to reduced exposure to anti-sclerostin antibody in those mice receiving multiple doses, anti-sclerostin antibody levels were measured immediately prior to dosing on day 28 and four days afterwards on day 32 in mice from group B and those from group C given the single dose at day 28. Figure 3 shows the results obtained and that the plasma levels of Scl-Ab on days 28 and 32 are not significantly different in mice from group B and group C, suggesting that the decreased P1NP response in the group B mice is not due to reduced exposure to Scl-Ab (as might happen due to rapid clearance if mice in group B mounted an immune response to Scl-Ab).

The kinetics of P1NP induction was compared, and is depicted in Figure 4, for mice receiving a single dose of sclerostin at either day 0 or 35 (series 1 - diamonds and series 2 - squares), with mice receiving multiple doses (series 3 - triangles). Figure 4 shows that although the P1NP response is lower in mice receiving multiple doses of Scl-Ab, the peak of the response still occurs around day 4 and so it is not the kinetics of the P1NP response to the anti-sclerostin antibody which are changed, only the magnitude.

Dosing holidays

The experiment shown in Figure 2 was continued and the data from the whole experiment is shown in Figure 5. Again, the results for group A are shown as diamond symbols, those for group B as square symbols and the single dose subgroups of group C as triangular symbols. The arrows at the bottom of the graph show the time of dosing for the group B animals. It can be seen from Figure 5 that in group A animals (dosed

only with PBS) P1NP levels fall until day 84 after which they reach a fairly stable plateau until the end of the experiment. After the dose of Scl-Ab at day 28 mice in group B were put on a dosing holiday with no further dosing of Scl-Ab until day 84. At this time point a sub-group of aged-matched animals (from group C) were also dosed with Scl-Ab. Surprisingly, the levels of P1NP at day 88 were not significantly different in animals that had received multiple doses of Scl-Ab and those receiving Scl-Ab for the first time. The results indicates that a dosing holiday allows reversal of the resistance (or tachyphylaxis) that develops in mice exposed to multiple doses of Scl-Ab.

Mice in group B received doses of Scl-Ab (10 mg/kg s.c) at days 91, 98, 105, 112 and 119. A sub-group of mice from pool C also received Scl-Ab on day 119. Figure 5 shows that the P1NP levels in the group B mice were significantly lower than those in the age-matched mice receiving Scl-Ab for the first time. These data show that even after an initial dosing holiday to reverse P1NP tachyphylaxis in the group B mice, the tachyphylactic state re-occurs after multiple doses of Scl-Ab.

Following the dose of Scl-Ab at day 119 the mice in group B were given a second dosing holiday until day 176 when they were dosed again with Scl-Ab (10 mg/kg s.c). At the same time point a subgroup of aged-matched animals from pool C were dosed with Scl-Ab (10 mg/kg s.c) for the first time. Measurement of circulating P1NP levels on day 180 show that there is no significant difference in the P1NP levels in the two groups indicating that a second dosing holiday again reversed the P1NP tachyphylaxis in the animals receiving multiple doses of Scl-Ab.

Bone mineral density (BMD) was measure in group A and B animals. Figure 6 shows the results obtained and illustrates that following multiple doses of Scl-Ab the BMD in group B animals increased significantly compared to animals in group A (receiving only saline). BMD declined when Scl-Ab dosing was stopped (after day 28) but again increased when dosing was re-started at day 84 after the dosing holiday.

To further study the duration of tachyphylaxis associated with multiple doses of Scl-Ab, mice were given five weekly doses of Scl-Ab and a further dose after a two week, four week, or six week holiday (Group 1). In other words, subjects in Group 1 received a dose of Scl-Ab on days 0, 7, 14, 21, and 28 of the study, and a subsequent dose on one of days 42, 56, or 70. For comparison, age-matched subjects, previously treated only with saline, were administered a single dose of Scl-Ab on day 28, 42, 56, or 70 (Group 2). Thus, Group 2 mice received only one dose of Scl-Ab, whereas Group 1

mice received multiple doses, optionally with a holiday before the final dose. P1NP levels were measured the day of antibody administration and one week after, and the responses of each group was compared (Figure 11A). While P1NP levels increased in response to antibody administration in all groups, the increase in P1NP levels in
5 subjects receiving a first dose of Scl-Ab on days 28 and 42 (Group 2) was greater than the increase in P1NP levels in mice previously treated with antibody (Group 1). Among Group 1 subjects, Scl-Ab administration triggered a greater increase in P1NP in subjects administered the dose after a two week holiday (day 42) compared to subjects receiving the dose at the end of the five week regimen (day 28). As illustrated in Figure 11A, full
10 responsiveness to the Scl-Ab appeared to return after four weeks without dosing (i.e., a four week holiday). The level of marker increase in Group 1 and Group 2 subjects administered Scl-Ab at day 56 (four week holiday) and day 70 (six week holiday) was similar. Figure 11B shows the BMD in these mice; bars denoted “#” correspond to Group 1 subjects and bars denoted “+” correspond to Group 2 subjects.

15 Hence, overall, the results obtained show that cycles of a series of doses followed by a dosing holiday may be employed to avoid the development of resistance to the anti-sclerostin antibody.

Throughout this specification and the claims which follow, unless the context requires otherwise, the word “comprise”, and variations such as “comprises” and
20 “comprising”, will be understood to imply the inclusion of a stated integer or step or group of integers or steps but not the exclusion of any other integer or step or group of integers or steps.

The reference in this specification to any prior publication (or information derived from it), or to any matter which is known, is not, and should not be taken as an
25 acknowledgment or admission or any form of suggestion that that prior publication (or information derived from it) or known matter forms part of the common general knowledge in the field of endeavour to which this specification relates.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A method for treating a bone disorder associated with at least one of low bone formation, low bone mineral density, low bone mineral content, low bone mass,
5 low bone quality and low bone strength in a mammalian subject, which method comprises:
- (a) administering at least five doses of anti-sclerostin antibody to a subject in need of such treatment, wherein the doses are administered at intervals of from 3 to 6 weeks;
- 10 (b) then allowing the subject a dosing holiday, which is at least 12 months in length; and
- (c) administering to the subject at least five further doses of anti-sclerostin antibody after the dosing holiday of (b), wherein the doses are administered at intervals of from 3 to 6 weeks.
- 15
2. A method for treating a bone disorder associated with at least one of low bone formation, low bone mineral density, low bone mineral content, low bone mass, low bone quality and low bone strength in a mammalian subject, which method comprises:
- 20 (a) administering at least five doses of anti-sclerostin antibody to a subject in need of such treatment and monitoring the subject to identify whether the subject shows a reduced response to a dose of the anti-sclerostin antibody;
- (b) if such a reduced response is identified, allowing the subject a dosing holiday which is at least twelve months in length; and
- 25 (c) if a dosing holiday is given in (a), administering to the subject at least five further doses of anti-sclerostin antibody after the dosing holiday of (b).
3. The method of claim 2, where:
- (i) the subject is known to have been administered at least two, at least three
30 or at least four doses of anti-sclerostin antibody prior to step (a); and/or
- (ii) the subject is one considered to be likely to display reduced responsiveness to the anti-sclerostin antibody due to previous administration of the antibody.

4. The method of claim 1 wherein step (a) further comprises monitoring the subject to identify when the subject shows a reduced response to a dose of the anti-sclerostin antibody; and step (b) comprises allowing the subject a dosing holiday which
5 is at least twelve months in length when such a reduced response is identified.

5. The method of any one of claims 2 to 4, where the monitoring is performed using:

10 (a) a marker of bone resorption selected from the group consisting of C-telopeptide, N-telopeptide, deoxypyridinoline, pyridinoline, urinary hydroxyproline, galactosyl hydroxylysine, and tartrate-resistant acid phosphatase;

(b) a marker of bone formation and/or mineralization selected from the group consisting of bone-specific alkaline phosphatase, peptides released from
15 N- and C-terminal extension of type I procollagen, and osteocalcin; and/or

(c) assessing bone mineral content and/or bone density using a technique selected from the group consisting of single- and dual-energy X-ray absorptometry, ultrasound, computed tomography, radiography, and magnetic
20 resonance imaging.

6. The method of any one of the preceding claims wherein step (b) further comprises administering a different treatment for the bone disorder during a dosing holiday.

25 7. The method of claim 6 where:

(i) the different treatment is an anti-resorptive;

(ii) the different treatment is an anti-resorptive selected from a bisphosphonate and denosumab; and/or

(iii) the subject is one who has also been administered the different treatment
30 prior to step (a).

8. The method of any one of claims 1 and 4 to 7, where:

- 5 (i) in (a) from five to twelve doses of anti-sclerostin antibody are administered;
- (ii) the interval between doses in (a) is from about four to five weeks; and/or
- (iii) in (c) the subject is administered a batch of from five to twelve doses of anti-sclerostin antibody.
- 10 9. The method of any one of claims 1 and 4 to 7, wherein:
- (i) in (a) five to seven doses of anti-sclerostin antibody are administered;
- (ii) the interval between doses in (a) is about a month in length;
- (iii) in (a) twelve doses are administered, with the doses given at about monthly or four weekly intervals; and/or
- (iv) in the number of doses administered in (c) is as defined in any of (i) to (iii).
- 15 10. The method of any one of claims 1 and 4 to 7, wherein the dosing holiday of (b) is from twelve to eighteen months.
- 20 11. The method of any one claims 1 and 4 to 6, where the method further comprises:
- (d) allowing the subject a further dosing holiday which is of at least twelve months; and
- (e) administering to the subject at least five further doses of anti-sclerostin antibody; and
- (f) optionally repeating steps (d) and (e) one or more further times.
- 25 12. The method of any one of the preceding claims, where the disorder to be treated is selected from the group consisting of achondroplasia, cleidocranial dysostosis, enchondromatosis, fibrous dysplasia, Gaucher's Disease, hypophosphatemic rickets, Marfan's syndrome, multiple hereditary exostoses, neurofibromatosis, osteogenesis imperfecta, osteopetrosis, osteopoikilosis, sclerotic lesions, pseudoarthrosis, pyogenic osteomyelitis, periodontal disease, anti-epileptic drug induced bone loss, primary and secondary hyperparathyroidism, familial hyperparathyroidism syndromes, weightlessness induced bone loss, osteoporosis in men, postmenopausal bone loss,
- 30

osteoarthritis, renal osteodystrophy, infiltrative disorders of bone, oral bone loss, osteonecrosis of the jaw, juvenile Paget's disease, melorheostosis, metabolic bone diseases, mastocytosis, sickle cell anemia/disease, organ transplant related bone loss, kidney transplant related bone loss, systemic lupus erythematosus, ankylosing

5 spondylitis, epilepsy, juvenile arthritides, thalassemia, mucopolysaccharidoses, Fabry Disease, Turner Syndrome, Down Syndrome, Klinefelter Syndrome, leprosy, Perthes' Disease, adolescent idiopathic scoliosis, infantile onset multisystem inflammatory disease, Winchester Syndrome, Menkes Disease, Wilson's Disease, ischemic bone

10 disease (such as Legg-Calve-Perthes disease, regional migratory osteoporosis), anemic states, conditions caused by steroids, glucocorticoid-induced bone loss, heparin-induced bone loss, bone marrow disorders, scurvy, malnutrition, calcium deficiency, osteoporosis, osteopenia, alcoholism, chronic liver disease, postmenopausal state, chronic inflammatory conditions, rheumatoid arthritis, inflammatory bowel disease, ulcerative colitis, inflammatory colitis, Crohn's disease, oligomenorrhea, amenorrhea,

15 pregnancy related bone loss, diabetes mellitus, hyperthyroidism, thyroid disorders, parathyroid disorders, Cushing's disease, acromegaly, hypogonadism, immobilization or disuse, reflex sympathetic dystrophy syndrome, regional osteoporosis, osteomalacia, bone loss associated with joint replacement, HIV associated bone loss, bone loss associated with loss of growth hormone, bone loss associated with cystic fibrosis,

20 chemotherapy associated bone loss, tumor induced bone loss, cancer-related bone loss, hormone ablative bone loss, multiple myeloma, drug-induced bone loss, anorexia nervosa, disease associated facial bone loss, disease associated cranial bone loss, disease associated bone loss of the jaw, disease associated bone loss of the skull, bone loss associated with aging, facial bone loss associated with aging, cranial bone loss

25 associated with aging, jaw bone loss associated with aging, skull bone loss associated with aging, and bone loss associated with space travel.

13. The method of claim 12, wherein:
- (a) the subject has osteoporosis or osteopenia; and/or
- 30 (b) the subject is a post-menopausal woman.

14. The method of any one of the preceding claims, where the amount of anti-sclerostin antibody administered for each dose is: (i) from about 50 to 250 mg; (ii) at least about 70 mg; (iii) at least about 140 mg; or (iv) at least about 210 mg.

5 15. The method of any one of the preceding claims, wherein the anti-sclerostin antibody:

- (i) is administered subcutaneously;
- (ii) demonstrates a binding affinity for sclerostin of SEQ ID NO: 1 of less than or equal to 1×10^{-7} M;
- 10 (iii) neutralizes human sclerostin in a MC3T3 cell-based mineralization assay when there is less than a 6-fold excess of moles of sclerostin binding sites per well as compared to the number of moles of sclerostin per well;
- (iv) has an IC_{50} of 100 nM or less, 50 nM or less, or 25 nM or less for neutralizing human sclerostin in a cell-based assay, such as a bone
15 specific alkaline phosphatase assay;
- (v) has an IC_{50} of 100 nM or less for neutralizing human sclerostin in a cell-based Wnt signalling assay in HEK293 cell lines; and/or
- (vi) has an IC_{50} of 500 nM or less for neutralizing human sclerostin in a
20 BMP2-induced mineralization assay in MC3T3 cells.

16. The method of any one of the preceding claims, wherein the anti-sclerostin antibody binds to a sclerostin polypeptide comprising the amino acid sequence set forth in SEQ ID NO: 1, where said anti-sclerostin antibody binds to:

- (i) the sequence of SEQ ID NO: 6;
- 25 (ii) the sequence of at least one of SEQ ID NO: 2, SEQ ID NO: 3, SEQ ID NO: 4, or SEQ ID NO: 5; or
- (iii) the sequence of at least one of SEQ ID NO: 70, SEQ ID NO: 71, SEQ ID NO: 72, or SEQ ID NO: 73.

30 17. The method of any one of the preceding claims, where the anti-sclerostin antibody:

- (i) cross-blocks the binding of at least one of antibodies Ab-A, Ab-B, Ab-C, Ab-D, Ab-1, Ab-2, Ab-3, Ab-4, Ab-5, Ab-6, Ab-7, Ab-8, Ab-9, Ab-10, Ab-11,

- Ab-12, Ab-13, Ab-14, Ab-15, Ab-16, Ab-17, Ab-18, Ab-19, Ab-20, Ab-21, Ab-22, Ab-23, and Ab-24 to sclerostin and/or is cross-blocked from binding to sclerostin by at least one of antibodies Ab-A, Ab-B, Ab-C, Ab-D, Ab-1, Ab-2, Ab-3, Ab-4, Ab-5, Ab-6, Ab-7, Ab-8, Ab-9, Ab-10, Ab-11, Ab-12, Ab-13, Ab-14, Ab-15, Ab-16, Ab-17, Ab-18, Ab-19, Ab-20, Ab-21, Ab-22, Ab-23, and Ab-24;
- (ii) comprises a CDR-H1 of SEQ ID NO:245, a CDR-H2 of SEQ ID NO:246, a CDR-H3 of SEQ ID NO:247, a CDR-L1 of SEQ ID NO:78, a CDR-L2 of SEQ ID NO:79 and a CDR-L3 of SEQ ID NO:80;
- (iii) comprises heavy chains comprising SEQ ID NO: 378 and light chains comprising SEQ ID NO 376; or
- (iv) has heavy chains of SEQ ID NO: 145 or SEQ ID NO: 392 and light chains of SEQ ID NO: 141.
18. The method of claim 1, where the method is for treating osteoporosis, which method comprises:
- (a) administering at least five doses of anti-sclerostin antibody to the subject, wherein the doses are administered at intervals of from 3 to 6 weeks in need of such treatment and monitoring the subject to identify whether the subject shows a reduced response to a dose of the anti-sclerostin antibody; and
- (b) if such a reduced response is identified, allowing the subject a dosing holiday which is from 6 to 18 months in length.
19. The method of claim 18, wherein:
- the subject is a postmenopausal woman;
 - the in step (a) 12 doses are given at about monthly intervals;
 - the in step (c) 12 doses are given at about monthly intervals;
 - during the dosing holiday the subject is administered a different treatment for osteoporosis, optionally bisphosphonate or denosumab;
 - each dose of the anti-sclerostin antibody is 210 mg; or
 - the dosing holiday is at least 6 months or at least 12 months.

20. Use of an anti-sclerostin antibody in the manufacture of a medicament for use in treating a bone disorder associated with at least one of low bone formation, low bone mineral density, low bone mineral content, low bone mass, low bone quality and low bone strength in a mammalian subject, where the medicament is to be administered in a method comprising:
- (a) administering at least five doses of anti-sclerostin antibody to a subject in need of such treatment subject, wherein the doses are administered at intervals of from 3 to 6 weeks;
 - (b) then allowing the subject a dosing holiday, which is at least 12 months months in length; and
 - (c) administering to the subject at least five further doses of anti-sclerostin antibody after the dosing holiday of (b), wherein the doses are administered at intervals of from 3 to 6 weeks.
21. Use of an anti-sclerostin antibody in the manufacture of a medicament for use in treating a bone disorder associated with at least one of low bone formation, low bone mineral density, low bone mineral content, low bone mass, low bone quality and low bone strength in a mammalian subject, where the medicament is to be administered in a method comprising:
- (a) administering at least five doses of anti-sclerostin antibody to a subject in need of such treatment and monitoring the subject to identify whether the subject shows a reduced response to a dose of the anti-sclerostin antibody;
 - (b) if such a reduced response is identified, allowing the subject a dosing holiday which is at least twelve months in length; and
 - (c) if a dosing holiday is given in (b), administering to the subject at least five doses of anti-sclerostin antibody after the dosing holiday of (b).
22. The use of claim 21, wherein:
- (i) the subject is known to have been administered at least two, at least three or at least four doses of anti-sclerostin antibody prior to step (a); and/or
 - (ii) the subject is one considered to be likely to display reduced responsiveness to the anti-sclerostin antibody due to previous administration of the antibody.

23. The use of claim 21 or 22, where the monitoring is performed using:
- 5 (a) a marker of bone resorption selected from the group consisting of C-telopeptide, N-telopeptide, deoxypyridinoline, pyridinoline, urinary hydroxyproline, galactosyl hydroxylysine, and tartrate-resistant acid phosphatase;
- 10 (b) a marker of bone formation and/or mineralization markers selected from the group consisting of bone-specific alkaline phosphatase, peptides released from N- and C-terminal extension of type I procollagen, and osteocalcin; and/or
- (c) by assessing bone mineral content and/or bone density using a technique selected from the group consisting of single- and dual-energy X-ray absorptometry, ultrasound, computed tomography, radiography, and magnetic resonance imaging.
- 15
24. Use of an anti-sclerostin antibody according to claim 20, wherein step (b) further comprises administering a different treatment for the bone disorder during the dosing holiday.
- 20
25. Use according to claim 24 where:
- (i) the different treatment is an anti-resorptive, optionally a bisphosphonate; and/or
- (ii) the subject is one who has also been administered the different treatment prior to step (a).
- 25
26. Use according to any one of claims 20 to 25, where:
- (i) the number of doses, interval between doses, and/or dosing holiday are as defined in any one of claims 8 to 10, 18 and 19;
- (ii) the method is as defined in claim 11;
- 30 (ii) the disorder is as defined in claim 12 or 13;
- (iii) the dosage is as defined in claim 14; and/or
- (iv) the anti-sclerostin antibody is as defined in claim 15, 16 or 17.

KINETICS OF P1NP RESPONSE TO Scl-Ab IN MOUSE

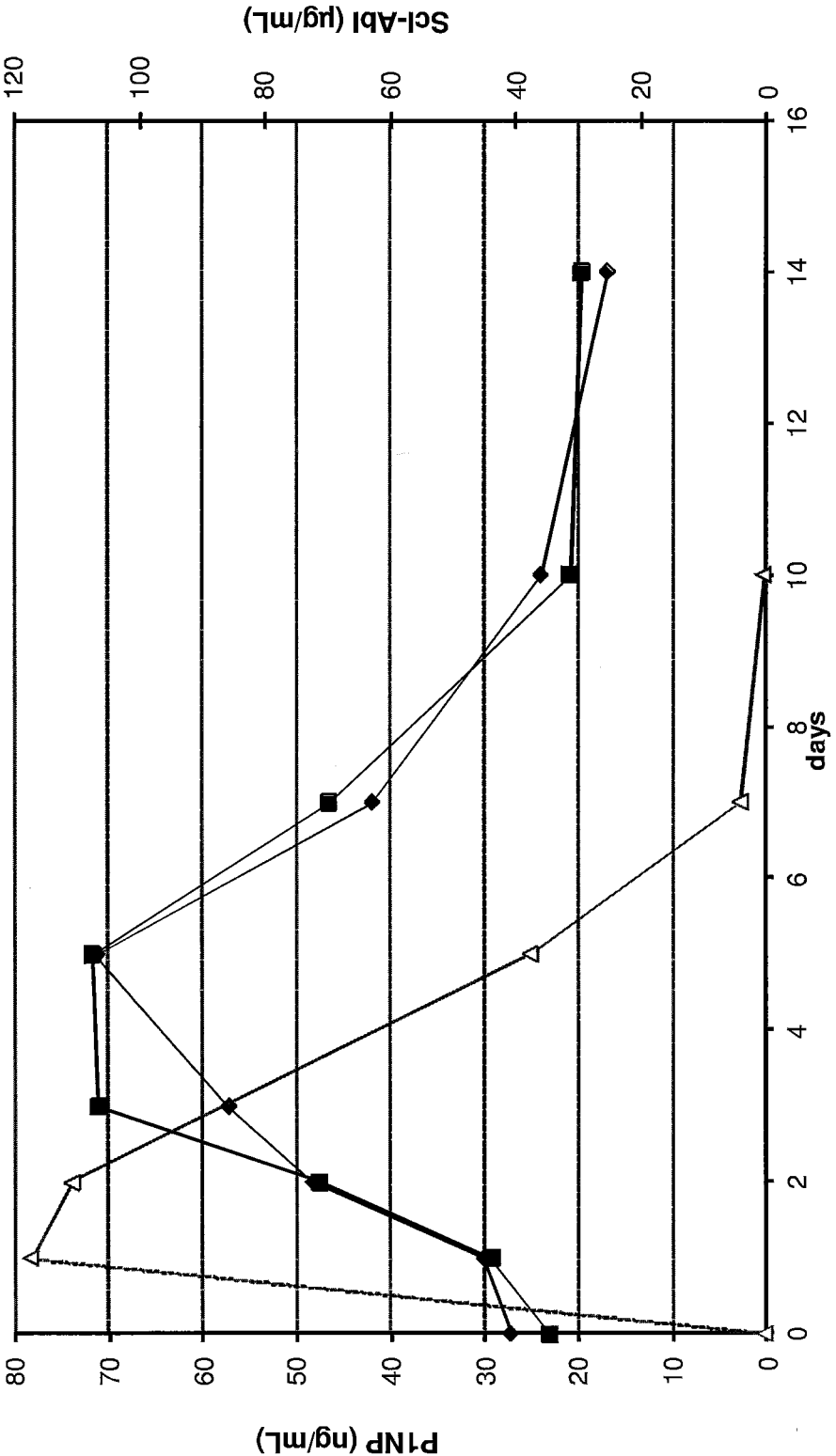


FIGURE 1

P1NP RESPONSE TO Scl-Ab FALLS AFTER MULTIPLE DOSES OF Scl-Ab

P1NP after Scl-Ab treatment

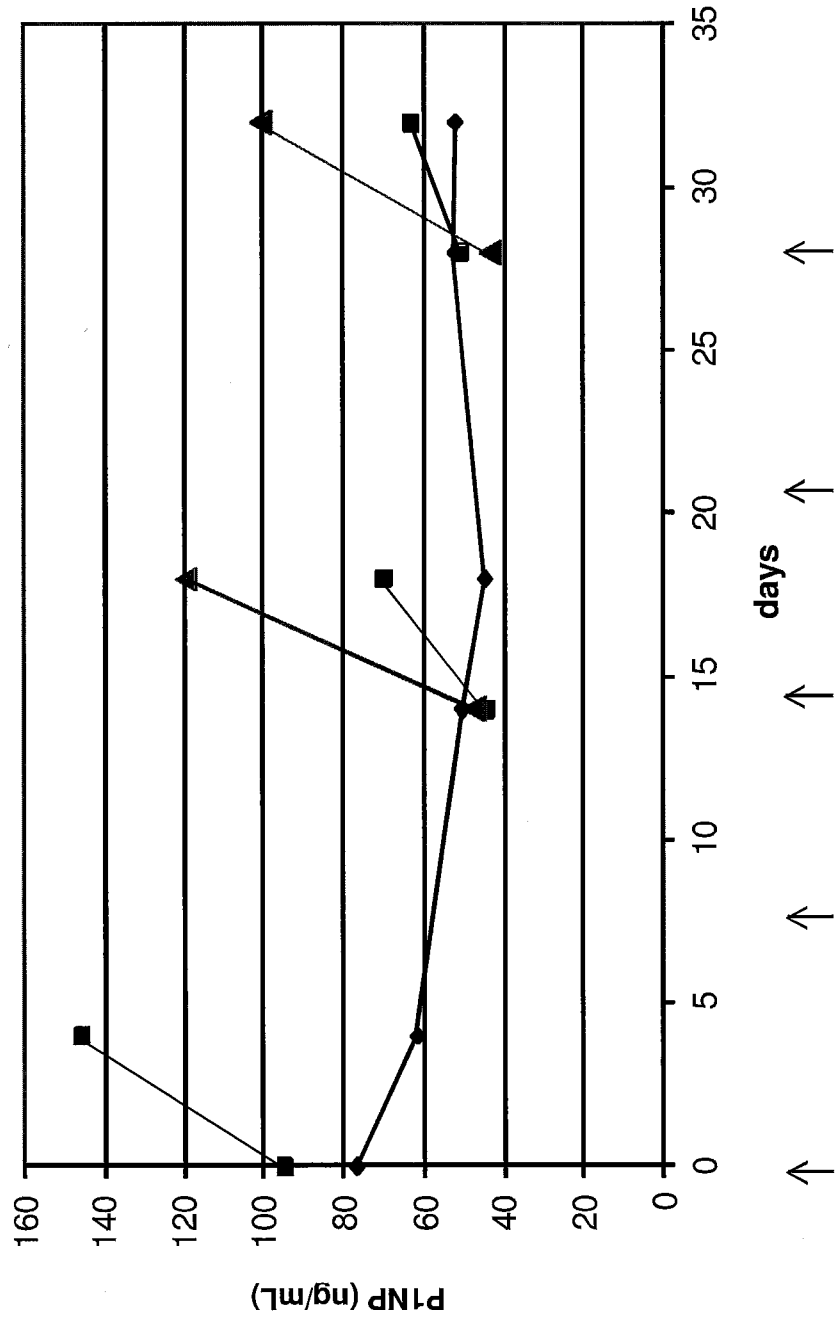


FIGURE 2

THE DECLINE IN P1NP LEVELS AFTER MULTIPLE DOSING IS NOT DUE TO REDUCED EXPOSURE OF Scl-Ab (DATA FOR DAY 32)

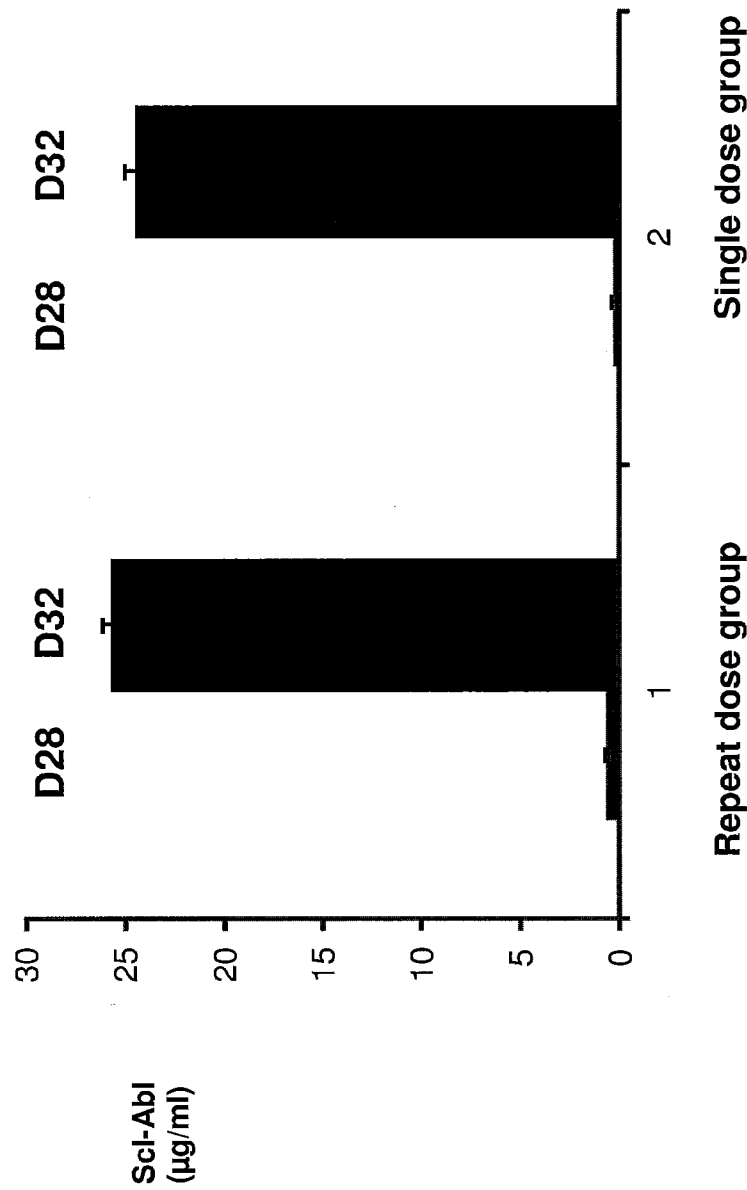


FIGURE 3

KINETIC OF P1NP INDUCTION DOES NOT CHANGE AFTER MULTIPLE DOSES OF Scl-Ab

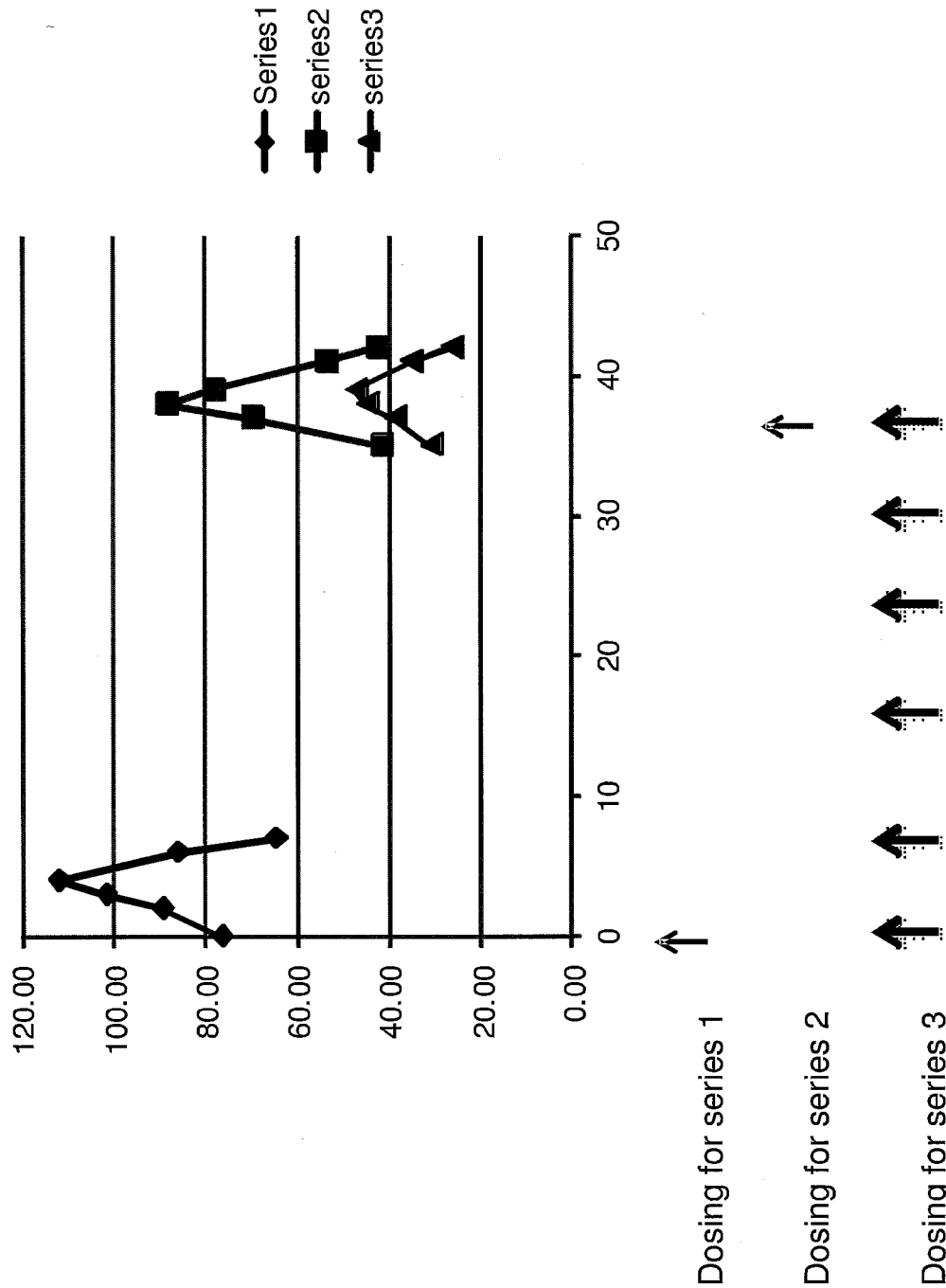


FIGURE 4

P1NP TACHYPHYLAXIS OCCURS AFTER REPEATED Sci-Ab BUT RECOVERS AFTER A
“DOSING HOLIDAY”

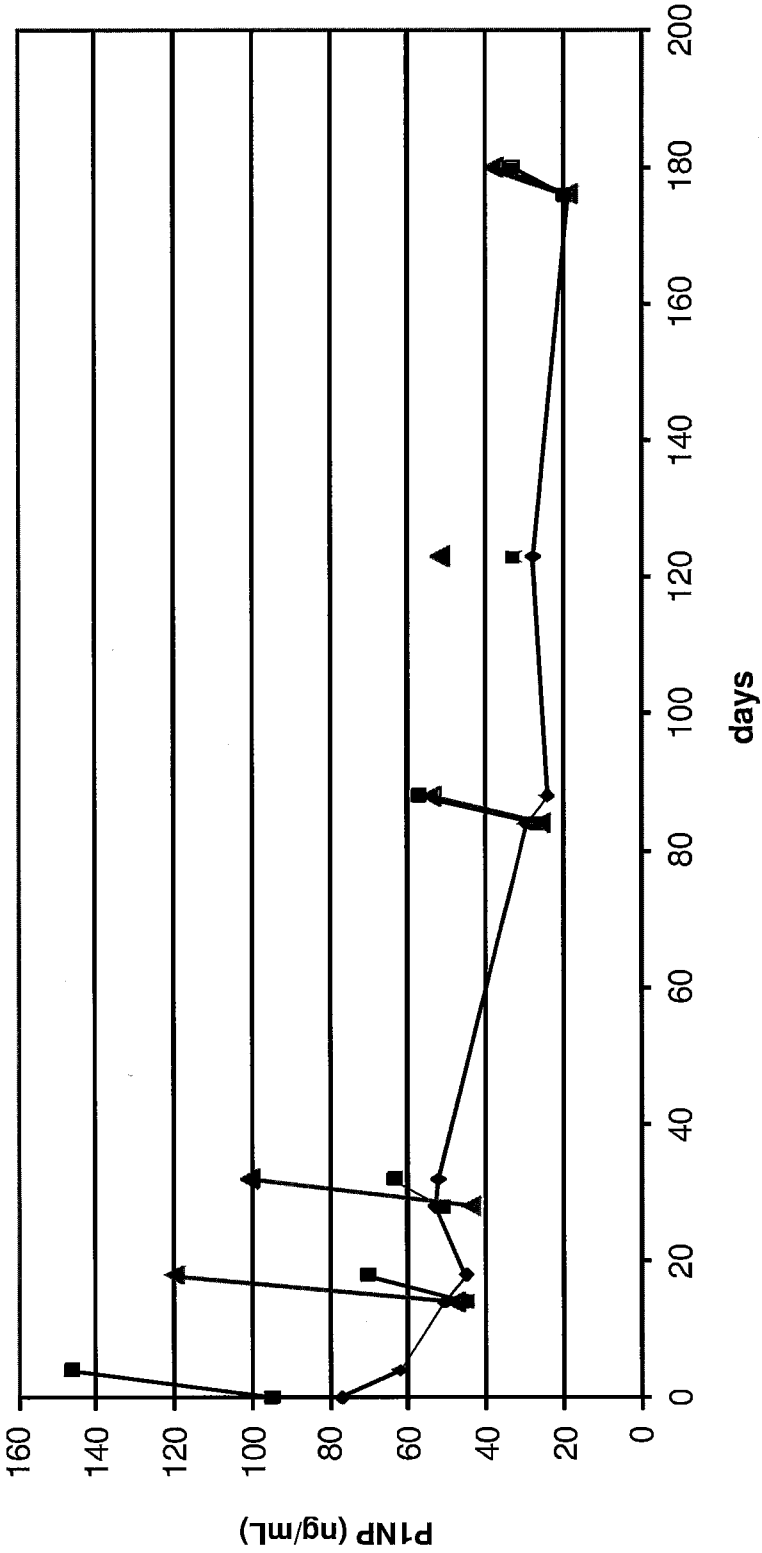


FIGURE 5

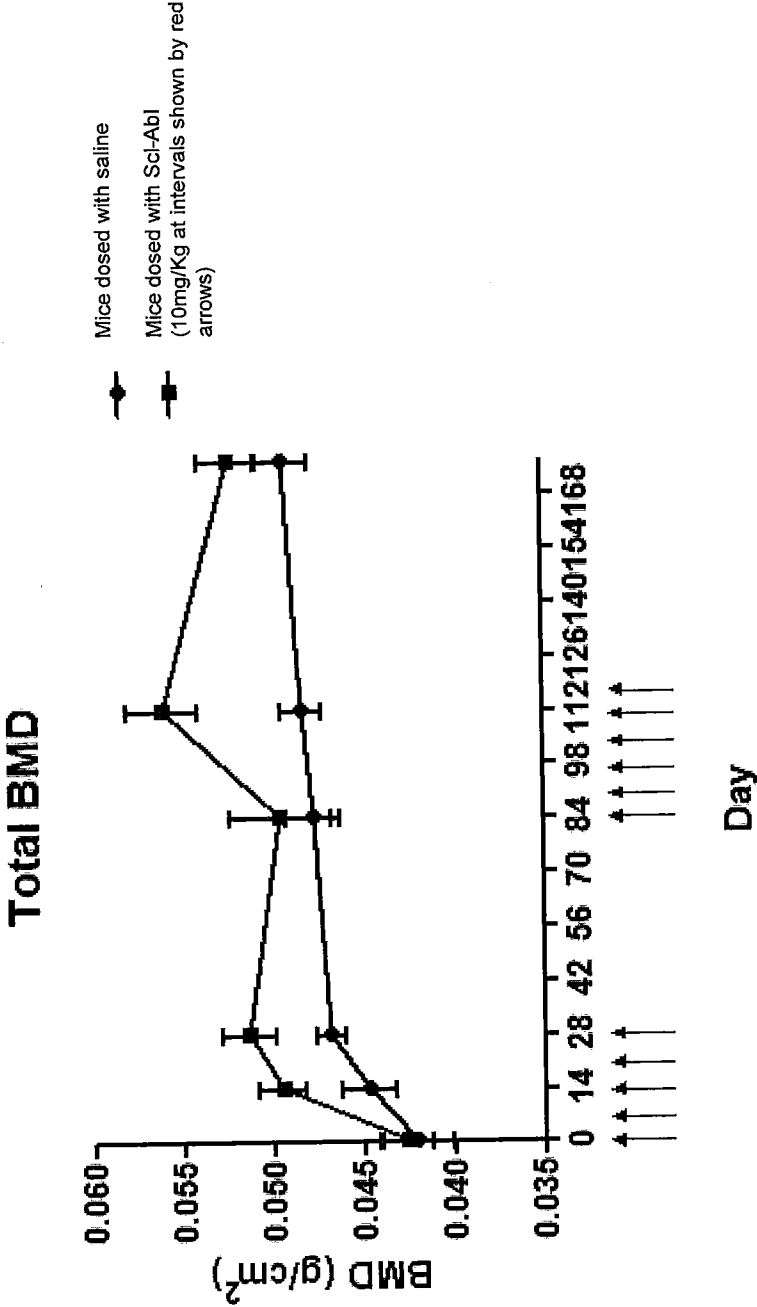


FIGURE 6

FIGURE 7

Sequence Description	Sequence
Ab-A and Ab-1 CDR-L1	QSSQSVYDNNWLA (SEQ ID NO: 54)
Ab-A and Ab-1 CDR-L2	DASDLAS (SEQ ID NO: 55)
Ab-A and Ab-1 CDR-L3	QGAYNDVIYA (SEQ ID NO: 56)
Ab-A and Ab-1 CDR-H1	SYWMN (SEQ ID NO: 51)
Ab-A and Ab-1 CDR-H2	TIDSGGRTDYASWAKG (SEQ ID NO: 52)
Ab-A and Ab-1 CDR-H3	NWNL (SEQ ID NO: 53)
Ab-A light chain	SEQ ID NO: 23
Ab-A heavy chain	SEQ ID NO: 27
Ab-1 light variable region (with signal sequence)	SEQ ID NO: 75
Ab-1 heavy variable region (with signal sequence)	SEQ ID NO: 77
Ab-B CDR-L1	SASSSVSFVD (SEQ ID NO: 60)
Ab-B CDR-L2	RTSNLGF (SEQ ID NO: 61)
Ab-B CDR-L3	QQRSTYPPT (SEQ ID NO: 62)
Ab-B CDR-H1	TSGMGVG (SEQ ID NO: 57)
Ab-B CDR-H2	HIWWDDVKRYNPVLKS (SEQ ID NO: 58)
Ab-B CDR-H3	EDFDYDEEYYAMDY (SEQ ID NO: 59)
Ab-B light chain	SEQ ID NO: 31
Ab-B heavy chain	SEQ ID NO: 35
Ab-C CDR-L1	KASQSVDYDGD SYMN (SEQ ID NO: 48)
Ab-C CDR-L2	AASNLES (SEQ ID NO: 49)
Ab-C CDR-L3	QQSNEDPWT (SEQ ID NO: 50)
Ab-C CDR-H1	DCYMN (SEQ ID NO: 45)
Ab-C CDR-H2	DINPFNGGTTYNQKFKG (SEQ ID NO: 46)
Ab-C CDR-H3	SHYYFDGRVPWDAMDY (SEQ ID NO: 47)
Ab-C light chain	SEQ ID NO: 15
Ab-C heavy chain	SEQ ID NO: 19
Ab-D CDR-L1	QASQGTSINLN (SEQ ID NO: 42)
Ab-D CDR-L2	GSSNLED (SEQ ID NO: 43)
Ab-D CDR-L3	LQHSYLPYT (SEQ ID NO: 44)
Ab-D CDR-H1	DHYMS (SEQ ID NO: 39)
Ab-D CDR-H2	DINPYSGETTYNQKFKG (SEQ ID NO: 40)
Ab-D CDR-H3	DDYDASPFAY (SEQ ID NO: 41)
Ab-D light chain	SEQ ID NO: 7
Ab-D heavy chain	SEQ ID NO: 11
Ab-2 CDR-L1	RASSSVYYMH (SEQ ID NO: 275)
Ab-2 CDR-L2	ATSNLAS (SEQ ID NO: 276)
Ab-2 CDR-L3	QQWSSDPLT (SEQ ID NO: 277)
Ab-2 CDR-H1	DYFIH (SEQ ID NO: 287)
Ab-2 CDR-H2	RLDPEDGESDYAPKFQD (SEQ ID NO: 288)
Ab-2 CDR-H3	EDYDGTYTFFPY (SEQ ID NO: 289)
Ab-2 light chain	SEQ ID NO: 117
Ab-2 heavy chain	SEQ ID NO: 121
Ab-3 and Ab-15 CDR-L1	SVSSTISSNHLH (SEQ ID NO: 278)

FIGURE 7 (cont.)

Sequence Description	Sequence
Ab-3 and Ab-15 CDR-L2	GTSNLAS (SEQ ID NO: 279)
Ab-3 and Ab-15 CDR-L3	QQWSSYPLT (SEQ ID NO: 280)
Ab-3 and Ab-15 CDR-H1	DFYLNH (SEQ ID NO: 290)
Ab-3 and Ab-15 CDR-H2	RIDPENGDTLYDPKFQD (SEQ ID NO: 291)
Ab-3 and Ab-15 CDR-H3	EADYFHDGTSYWFYFDV (SEQ ID NO: 292)
Ab-3 light chain	SEQ ID NO: 125
Ab-3 heavy chain	SEQ ID NO: 129
Ab-15 light variable region	SEQ ID NO: 384
Ab-15 heavy variable region	SEQ ID NO: 386
Ab-15 light chain	SEQ ID NO: 221
Ab-15 heavy chain	SEQ ID NO: 225
Ab-4 and Ab-5 CDR-L1	RASQDISNYLN (SEQ ID NO: 78)
Ab-4 and Ab-5 CDR-L2	YTSRLLS (SEQ ID NO: 79)
Ab-4 and Ab-5 CDR-L3	QQGDTLPYT (SEQ ID NO: 80)
Ab-4 and Ab-5 CDR-H1	DYNMH (SEQ ID NO: 245)
Ab-4 and Ab-5 CDR-H2	EINPNSGGAGYNQKFKG (SEQ ID NO: 246)
Ab-4 and Ab-5 CDR-H3	LGYYDDIYDDWYFDV (SEQ ID NO: 247)
Ab-4 light chain	SEQ ID NO: 133
Ab-4 heavy chain	SEQ ID NO: 137
Ab-5 light variable region	SEQ ID NO: 376
Ab-5 heavy variable region	SEQ ID NO: 378
Ab-5 light chain	SEQ ID NO: 141
Ab-5 heavy chain	SEQ ID NO: 145
Ab-6 CDR-L1	RASQDISNYLN (SEQ ID NO: 81)
Ab-6 CDR-L2	YTSRLHS (SEQ ID NO: 99)
Ab-6 CDR-L3	QQGDTLPYT (SEQ ID NO: 100)
Ab-6 CDR-H1	DYNMH (SEQ ID NO: 248)
Ab-6 CDR-H2	EINPNSGGSGYNQKFKG (SEQ ID NO: 249)
Ab-6 CDR-H3	LVYDGSYEDWYFDV (SEQ ID NO: 250)
Ab-6 light chain	SEQ ID NO: 149
Ab-6 heavy chain	SEQ ID NO: 153
Ab-7 CDR-L1	RASQVITNYLY (SEQ ID NO: 101)
Ab-7 CDR-L2	YTSRLHS (SEQ ID NO: 102)
Ab-7 CDR-L3	QQGDTLPYT (SEQ ID NO: 103)
Ab-7 CDR-H1	DYNMH (SEQ ID NO: 251)
Ab-7 CDR-H2	EINPNSGGAGYNQQFKG (SEQ ID NO: 252)
Ab-7 CDR-H3	LGYYVGNYYEDWYFDV (SEQ ID NO: 253)
Ab-7 light chain	SEQ ID NO: 157
Ab-7 heavy chain	SEQ ID NO: 161
Ab-8 CDR-L1	RASQDISNYLN (SEQ ID NO: 104)
Ab-8 CDR-L2	YTSRLLS (SEQ ID NO: 105)
Ab-8 CDR-L3	QQGDTLPYT (SEQ ID NO: 106)
Ab-8 CDR-H1	DYNMH (SEQ ID NO: 254)
Ab-8 CDR-H2	EINPNSGGAGYNQKFKG (SEQ ID NO: 255)
Ab-8 CDR-H3	LGYYDDIYDDWYFDV (SEQ ID NO: 256)

FIGURE 7 (cont.)

Sequence Description	Sequence
Ab-8 light chain	SEQ ID NO: 165
Ab-8 heavy chain	SEQ ID NO: 169
Ab-9 CDR-L1	RASQDISNYLN (SEQ ID NO: 107)
Ab-9 CDR-L2	YTSRLFS (SEQ ID NO: 108)
Ab-9 CDR-L3	QQGDTLPYT (SEQ ID NO: 109)
Ab-9 CDR-H1	DYNMH (SEQ ID NO: 257)
Ab-9 CDR-H2	EINPNSGGAGYNQKFKG (SEQ ID NO: 258)
Ab-9 CDR-H3	LGYYDDIYDDWYFDV (SEQ ID NO: 259)
Ab-9 light chain	SEQ ID NO: 173
Ab-9 heavy chain	SEQ ID NO: 177
Ab-10 CDR-L1	RASQDISNYLN (SEQ ID NO: 110)
Ab-10 CDR-L2	YTSRLLS (SEQ ID NO: 111)
Ab-10 CDR-L3	QQGDTLPYT (SEQ ID NO: 112)
Ab-10 CDR-H1	DYNMH (SEQ ID NO: 260)
Ab-10 CDR-H2	EINPNSGGAGYNQKFKG (SEQ ID NO: 261)
Ab-10 CDR-H3	LGYYDDIYDDWYFDV (SEQ ID NO: 262)
Ab-10 light chain	SEQ ID NO: 181
Ab-10 heavy chain	SEQ ID NO: 185
Ab-11 and Ab-16 CDR-L1	RASSSISYIH (SEQ ID NO: 281)
Ab-11 and Ab-16 CDR-L2	ATSNLAS (SEQ ID NO: 282)
Ab-11 and Ab-16 CDR-L3	QQWSSDPLT (SEQ ID NO: 283)
Ab-11 and Ab-16 CDR-H1	DYYIH (SEQ ID NO: 293)
Ab-11 and Ab-16 CDR-H2	RVDPDNGETEFAPKFPK (SEQ ID NO: 294)
Ab-11 and Ab-16 CDR-H3	EDYDGTYTTFWFPY (SEQ ID NO: 295)
Ab-11 light chain	SEQ ID NO: 189
Ab-11 heavy chain	SEQ ID NO: 193
Ab-16 light variable region	SEQ ID NO: 388
Ab-16 heavy variable region	SEQ ID NO: 390
Ab-16 light chain	SEQ ID NO: 229
Ab-16 heavy chain	SEQ ID NO: 233
Ab-12 CDR-L1	RASQDISNYLN (SEQ ID NO: 113)
Ab-12 CDR-L2	YTSTLQS (SEQ ID NO: 114)
Ab-12 CDR-L3	QQGDTLPYT (SEQ ID NO: 115)
Ab-12 CDR-H1	DYNMH (SEQ ID NO: 263)
Ab-12 CDR-H2	EINPNSGGSGYNQKFKG (SEQ ID NO: 264)
Ab-12 CDR-H3	LGYYGNYEDWYFDV (SEQ ID NO: 265)
Ab-12 light chain	SEQ ID NO: 197
Ab-12 heavy chain	SEQ ID NO: 201
Ab-13 and Ab-14 CDR-L1	RASSSVTSSYLN (SEQ ID NO: 284)
Ab-13 and Ab-14 CDR-L2	STSNLAS (SEQ ID NO: 285)
Ab-13 and Ab-14 CDR-L3	QQYDFFPST (SEQ ID NO: 286)
Ab-13 and Ab-14 CDR-H1	DYYMN (SEQ ID NO: 296)
Ab-13 and Ab-14 CDR-H2	DINPYNDDTTYNHKFKG (SEQ ID NO: 297)
Ab-13 and Ab-14 CDR-H3	ETAVITTNAMD (SEQ ID NO: 298)
Ab-13 light chain	SEQ ID NO: 205

FIGURE 7 (cont.)

Sequence Description	Sequence
Ab-13 heavy chain	SEQ ID NO: 209
Ab-14 light variable region	SEQ ID NO: 380
Ab-14 heavy variable region	SEQ ID NO: 382
Ab-14 light chain	SEQ ID NO: 213
Ab-14 heavy chain	SEQ ID NO: 217
Ab-17 and Ab-18 CDR-L1	SVSSSISSSNLH (SEQ ID NO: 116)
Ab-17 and Ab-18 CDR-L2	GTSNLAS (SEQ ID NO: 237)
Ab-17 and Ab-18 CDR-L3	QQWTTTYT (SEQ ID NO: 238)
Ab-17 and Ab-18 CDR-H1	DYYIH (SEQ ID NO: 266)
Ab-17 and Ab-18 CDR-H2	RIDPDNGESTYVPKFQG (SEQ ID NO: 267)
Ab-17 and Ab-18 CDR-H3	EGLDYGDYYAVDY (SEQ ID NO: 268)
Ab-17 light variable region (with signal sequence)	SEQ ID NO: 299
Ab-17 heavy variable region (with signal sequence)	SEQ ID NO: 301
Ab-18 light variable region (with signal sequence)	SEQ ID NO: 303
Ab-18 heavy variable region (with signal sequence)	SEQ ID NO: 305
Ab-19, Ab-20 and Ab-23 CDR-L1	RASQDISSYLN (SEQ ID NO: 239)
Ab-19, Ab-20 and Ab-23 CDR-L2	STSLRLNS (SEQ ID NO: 240)
Ab-19, Ab-20 and Ab-23 CDR-L3	QQDIKHPT (SEQ ID NO: 241)
Ab-19, Ab-20 and Ab-23 CDR-H1	DYIMH (SEQ ID NO: 269)
Ab-19, Ab-20 and Ab-23 CDR-H2	YINPYNDDTEYNEKFKG (SEQ ID NO: 270)
Ab-19, Ab-20 and Ab-23 CDR-H3	SIYYYDAPFAY (SEQ ID NO: 271)
Ab-19 light variable region	SEQ ID NO: 314
Ab-19 heavy variable region	SEQ ID NO: 327
Ab-19 light chain (with signal sequence)	SEQ ID NO: 307
Ab-19 heavy chain (with signal sequence)	SEQ ID NO: 309
Ab-20 light variable region (with signal sequence)	SEQ ID NO: 311
Ab-20 heavy variable region (with signal sequence)	SEQ ID NO: 313
Ab-23 light variable region	SEQ ID NO: 364
Ab-23 heavy variable region	SEQ ID NO: 366
Ab-23 light chain	SEQ ID NO: 341
Ab-23 heavy chain	SEQ ID NO: 345
Ab-21 and Ab-22 CDR-L1	KASQDVFTAVA (SEQ ID NO: 242)
Ab-21 and Ab-22 CDR-L2	WASTRHT (SEQ ID NO: 243)
Ab-21 and Ab-22 CDR-L3	QQYSSYPLT (SEQ ID NO: 244)
Ab-21 and Ab-22 CDR-H1	DYYMH (SEQ ID NO: 272)
Ab-21 and Ab-22 CDR-H2	RIDPENGDIYDPKFQG (SEQ ID NO: 273)
Ab-21 and Ab-22 CDR-H3	DAGDPAWFTY (SEQ ID NO: 274)
Ab-21 light variable region (with signal sequence)	SEQ ID NO: 315
Ab-21 heavy variable region (with signal sequence)	SEQ ID NO: 317

FIGURE 7 (cont.)

Sequence Description	Sequence
sequence)	
Ab-22 light variable region	SEQ ID NO: 368
Ab-22 heavy variable region	SEQ ID NO: 370
Ab-24 CDR-L1	KASQSVDYDGT'SYMN (SEQ ID NO: 351)
Ab-24 CDR-L2	AASNLES (SEQ ID NO: 352)
Ab-24 CDR-L3	QQSNEDPFT (SEQ ID NO: 353)
Ab-24 CDR-H1	TYWMN (SEQ ID NO: 358)
Ab-24 CDR-H2	MIHPSASEIRLDQKFKD (SEQ ID NO: 359)
Ab-24 CDR-H3	SGEWGSMDY (SEQ ID NO: 360)
Ab-24 light chain	SEQ ID NO: 350
Ab-24 heavy chain	SEQ ID NO: 357

FIGURE 8 12/204

SEQUENCE LISTING

<110> Eli Lilly and Company
 Korytko, Andrew I.
 Marquis, David Matthew
 Smith, Eric Michael
 Swanson, Barbara Anne

<120> Anti-Sclerostin Antibodies

<130> X17563

<150> US 60/895813
 <151> 2007-03-20

<160> 43

<170> PatentIn version 3.4

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 <213> Homo sapiens

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 1 5 10 15

Ala Phe Arg Val Val Glu Gly Gln Gly Trp Gln Ala Phe Lys Asn Asp
 20 25 30

Ala Thr Glu Ile Ile Pro Glu Leu Gly Glu Tyr Pro Glu Pro Pro Pro
 35 40 45

Glu Leu Glu Asn Asn Lys Thr Met Asn Arg Ala Glu Asn Gly Gly Arg
 50 55 60

Pro Pro His His Pro Phe Glu Thr Lys Asp Val Ser Glu Tyr Ser Cys
 65 70 75 80

Arg Glu Leu His Phe Thr Arg Tyr Val Thr Asp Gly Pro Cys Arg Ser
 85 90 95

Ala Lys Pro Val Thr Glu Leu Val Cys Ser Gly Gln Cys Gly Pro Ala
 100 105 110

Arg Leu Leu Pro Asn Ala Ile Gly Arg Gly Lys Trp Trp Arg Pro Ser
 115 120 125

Gly Pro Asp Phe Arg Cys Ile Pro Asp Arg Tyr Arg Ala Gln Arg Val
 130 135 140

FIGURE 8 Continued...

13

Gln Leu Leu Cys Pro Gly Gly Glu Ala Pro Arg Ala Arg Lys Val Arg
145 150 155 160

Leu Val Ala Ser Cys Lys Cys Lys Arg Leu Thr Arg Phe His Asn Gln
165 170 175

Ser Glu Leu Lys Asp Phe Gly Thr Glu Ala Ala Arg Pro Gln Lys Gly
180 185 190

Arg Lys Pro Arg Pro Arg Ala Arg Ser Ala Lys Ala Asn Gln Ala Glu
195 200 205

Leu Glu Asn Ala Tyr
210

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<213> Artificial

<220>
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<400> 2

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Phe Leu Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Thr Ile Tyr Pro Tyr His Asp Gly Thr Thr Tyr Ser Gln Lys Phe
50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Glu Glu Asp Gly Gln Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
115 120 125

FIGURE 8 Continued...

Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly
 130 135 140

Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn
 145 150 155 160

Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln
 165 170 175

Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser
 180 185 190

Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His Lys Pro Ser
 195 200 205

Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys
 210 215 220

Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val Phe Leu
 225 230 235 240

Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
 245 250 255

Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln
 260 265 270

Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys
 275 280 285

Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser Val Leu
 290 295 300

Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys
 305 310 315 320

Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys
 325 330 335

Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
 340 345 350

Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
 355 360 365

FIGURE 8 Continued...

Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln
 370 375 380

Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly
 385 390 395 400

Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg Trp Gln
 405 410 415

Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
 420 425 430

His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly
 435 440

<210> 3
 <211> 444
 <212> PRT
 <213> Artificial

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Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Val Ser Gly Phe Pro Ile Lys Asp Thr
 20 25 30

Phe Gln His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ser Asp Pro Glu Ile Gly Asp Thr Glu Tyr Ala Ser Lys Phe
 50 55 60

Gln Gly Arg Val Thr Met Thr Glu Asp Thr Ser Thr Asp Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Thr Gly Asp Thr Thr Tyr Lys Phe Asp Phe Trp Gly Gln Gly Thr
 100 105 110

Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
 115 120 125

FIGURE 8 Continued...

Leu	Ala	Pro	Cys	Ser	Arg	Ser	Thr	Ser	Glu	Ser	Thr	Ala	Ala	Leu	Gly	130	135	140	
Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	Trp	Asn	145	150	155	160
Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu	Gln	165	170	175	
Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro	Ser	Ser	180	185	190	
Ser	Leu	Gly	Thr	Lys	Thr	Tyr	Thr	Cys	Asn	Val	Asp	His	Lys	Pro	Ser	195	200	205	
Asn	Thr	Lys	Val	Asp	Lys	Arg	Val	Glu	Ser	Lys	Tyr	Gly	Pro	Pro	Cys	210	215	220	
Pro	Pro	Cys	Pro	Ala	Pro	Glu	Phe	Leu	Gly	Gly	Pro	Ser	Val	Phe	Leu	225	230	235	240
Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	245	250	255	
Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	Gln	Glu	Asp	Pro	Glu	Val	Gln	260	265	270	
Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	Lys	275	280	285	
Pro	Arg	Glu	Glu	Gln	Phe	Asn	Ser	Thr	Tyr	Arg	Val	Val	Ser	Val	Leu	290	295	300	
Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys	Lys	305	310	315	320
Val	Ser	Asn	Lys	Gly	Leu	Pro	Ser	Ser	Ile	Glu	Lys	Thr	Ile	Ser	Lys	325	330	335	
Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu	Pro	Pro	Ser	340	345	350	
Gln	Glu	Glu	Met	Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu	Val	Lys	355	360	365	

FIGURE 8 Continued...

Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln
 370 375 380

Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly
 385 390 395 400

Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg Trp Gln
 405 410 415

Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
 420 425 430

His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly
 435 440

<210> 4
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 <212> PRT
 <213> Artificial

<220>
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<400> 4

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Glu
 1 5 10 15

Ser Leu Lys Ile Ser Cys Lys Gly Ser Asp Phe Glu Ile Lys Asp Tyr
 20 25 30

Tyr Ile His Trp Val Arg Gln Met Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45

Gly Gln Ile Asp Ala Glu Asp Gly Glu Thr Glu Tyr Ala Pro Arg Phe
 50 55 60

Gln Gly Gln Val Thr Ile Ser Ala Asp Lys Ser Ile Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met Tyr Tyr Cys
 85 90 95

Ala Arg Glu Gly Tyr Tyr Tyr Asp Gly Arg Asp Tyr Trp Tyr Phe Asp
 100 105 110

Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys
 115 120 125

FIGURE 8 Continued...

Gly	Pro	Ser	Val	Phe	Pro	Leu	Ala	Pro	Cys	Ser	Arg	Ser	Thr	Ser	Glu	130	135	140
Ser	Thr	Ala	Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	145	150	155
Val	Thr	Val	Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	165	170	175
Phe	Pro	Ala	Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	180	185	190
Val	Thr	Val	Pro	Ser	Ser	Ser	Leu	Gly	Thr	Lys	Thr	Tyr	Thr	Cys	Asn	195	200	205
Val	Asp	His	Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Arg	Val	Glu	Ser	210	215	220
Lys	Tyr	Gly	Pro	Pro	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Glu	Phe	Leu	Gly	225	230	235
Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	245	250	255
Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	Gln	260	265	270
Glu	Asp	Pro	Glu	Val	Gln	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	275	280	285
His	Asn	Ala	Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Phe	Asn	Ser	Thr	Tyr	290	295	300
Arg	Val	Val	Ser	Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	305	310	315
Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	Gly	Leu	Pro	Ser	Ser	Ile	325	330	335
Glu	Lys	Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	340	345	350
Tyr	Thr	Leu	Pro	Pro	Ser	Gln	Glu	Glu	Met	Thr	Lys	Asn	Gln	Val	Ser	355	360	365

FIGURE 8 Continued...

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
370 375 380

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
385 390 395 400

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val
405 410 415

Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met
420 425 430

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
435 440 445

Leu Gly
450

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<212> PRT
<213> Artificial

<220>
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Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Ser Ala Ser Gln Gly Ile Gln Trp Tyr
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Tyr Thr Ser Ser Leu His Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln His Ser Lys Leu Pro Arg
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

FIGURE 8 Continued...

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
 115 120 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
 130 135 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
 145 150 155 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
 165 170 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
 180 185 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
 195 200 205

Phe Asn Arg Gly Glu Cys
 210

<210> 6
 <211> 214
 <212> PRT
 <213> Artificial

<220>
 <223> Miscellaneous construct

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Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Val His Thr Ala
 20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Trp Ala Ser Thr Arg Trp Thr Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Asp Tyr Pro Trp
 85 90 95

FIGURE 8 Continued...

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
 100 105 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
 115 120 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
 130 135 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
 145 150 155 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
 165 170 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
 180 185 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
 195 200 205

Phe Asn Arg Gly Glu Cys
 210

<210> 7
 <211> 213
 <212> PRT
 <213> Artificial

<220>
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<400> 7

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Ser Ala Ser Ser Ser Val Ser Tyr Ile
 20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr
 35 40 45

Ser Thr Ser Glu Leu Ala Ser Gly Ile Pro Ala Arg Phe Ser Gly Ser
 50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro Glu

[illegible]

FIGURE 8 Continued...

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gccgccctgg gctgcctggg caaggactac ttccccgaac cggtgacggg gtcgtggaac 480
tcaggcgccc tgaccagcgg cgtgcacacc ttcccggtg tctacagtc ctcaggactc 540
tactccctca gcagcgtggg gaccgtgccc tccagcagct tgggcacgaa gacctacacc 600
tgcaacgtag atcacaagcc cagcaacacc aaggtggaca agagagttga gtccaaatat 660
ggccccccat gccaccctg cccagcacct gagttcctgg ggggaccatc agtcttctctg 720
ttccccccaa aaccaagga cactctcatg atctcccga cccctgaggt cacgtgcgtg 780
gtggtggacg tgagccagga agaccccgag gtccagttca actggtacgt ggatggcgtg 840
gaggtgcata atgccaagac aaagcccggg gaggagcagt tcaacagcac gtaccgtgtg 900
gtcagcgtcc tcaccgtcct gcaccaggac tggctgaacg gcaaggagta caagtgcaag 960
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tccttcttcc tctacagcag gctaaccgtg gacaagagca ggtggcagga ggggaatgtc 1260
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<220>
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cctggaaaag ggcttgagtg gatgggatgg agcgatcctg agatcgggtga tactgaatat 180
gcctcgaagt tccagggcag agtcaccatg accgaggaca catctacaga cacagcctac 240
atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc aacaggcgac 300
accacataca agtttgactt ctgggggcaa gggaccacgg tcaccgtctc ctcagcctcc 360
accaaggggc catcggtctt cccgctagcg ccctgctcca ggagcacctc cgagagcaca 420
gccgccctgg gctgcctggg caaggactac ttccccgaac cggtgacggg gtcgtggaac 480
tcaggcgccc tgaccagcgg cgtgcacacc ttcccggtg tctacagtc ctcaggactc 540

```

FIGURE 8 Continued...

tactccctca gcagcgtggt gaccgtgccc tccagcagct tgggcacgaa gacctacacc	600
tgcaacgtag atcacaaagg cagcaacacc aaggtggaca agagagttga gtccaaatat	660
ggtcccccat gccaccctg cccagcacct gagttcctgg ggggaccatc agtcttcctg	720
ttcccccaa aaccaagga cactctcatg atctcccga cccctgaggt cacgtgcgtg	780
gtggtggacg tgagccagga agaccccgag gtccagttca actggtacgt ggatggcgtg	840
gaggtgcata atgccaagac aaagccgagg gaggagcagt tcaacagcac gtaccgtgtg	900
gtcagcgtcc tcaccgtcct gcaccaggac tggctgaacg gcaaggagta caagtgcag	960
gtctccaaca aaggcctccc gtccctccatc gagaaaacca tctccaaagc caaagggcag	1020
ccccgagagc cacaggtgta caccctgccc ccatcccagg aggagatgac caagaaccag	1080
gtcagcctga cctgcctggt caaaggcttc taccacagcg acatcgccgt ggagtgggaa	1140
agcaatgggc agccggagaa caactacaag accacgcctc ccgtgctgga ctccgacggc	1200
tccttcttcc tctacagcag gctaaccgtg gacaagagca ggtggcagga ggggaatgtc	1260
ttctcatgct ccgtgatgca tgaggctctg cacaaccact acacacagaa ggcctctcc	1320
ctgtctctgg gt	1332

<210> 10

<211> 1350

<212> DNA

<213> Artificial

<220>

<223> Miscellaneous construct

<400> 10

gaggtgcagc tgggtgcagtc tggagcagag gtgaaaaagc ccggggagtc tctgaagatc	60
tcctgtaagg gttctgactt cgagattaaa gactactata tacattgggt gcgccagatg	120
cccgggaaag gcctggagtg gatggggcag attgatgctg aggatggtga aactgaatat	180
gccccgaggt tccagggcca ggtcaccatc tcagccgaca agtccatcag caccgcctac	240
ctgcagtgga gcagcctgaa ggcctcggac accgccatgt attactgtgc gagagagggc	300
tattactacg atgggcgcga ctactggtac ttcgatgtct ggggccaagg gaccacggtc	360
accgtctcct cagcctccac caagggccca tcggtcttcc cgctagcgcc ctgctccagg	420
agcacctccg agagcacagc cggcctgggc tgccctggtca aggactactt cccgaaccg	480
gtgacgggtgt cgtggaaactc aggcgcctg accagcggcg tgcacacctt cccggetgtc	540
ctacagtcct caggactcta ctccctcagc agcgtggtga ccgtgccctc cagcagcttg	600
ggcacgaaga cctacacctg caacgtagat cacaagccca gcaacaccaa ggtggacaag	660
agagttgagt ccaaatatgg tccccatgc ccaccctgcc cagcacctga gttcctgggg	720

FIGURE 8 Continued...

```

ggaccatcag tcttcctgtt cccccaaaa cccaaggaca ctctcatgat ctcccgacc 780
cctgaggtca cgtgcgtggt ggtggacgtg agccaggaag accccgaggt ccagttcaac 840
tggtacgtgg atggcgtgga ggtgcataat gccaaagaca agccgcggga ggagcagttc 900
aacagcacgt accgtgtggt cagcgtcctc accgtcctgc accaggactg gctgaacggc 960
aaggagtaca agtgcaaggt ctccaacaaa ggccctccgt cctccatcga gaaaaccatc 1020
tccaaagcca aagggcagcc ccgagagcca caggtgtaca ccctgcccc atcccaggag 1080
gagatgacca agaaccaggt cagcctgacc tgctgtgtca aaggcttcta cccagcgac 1140
atcgccgtgg agtgggaaag caatgggcag ccggagaaca actacaagac cagcctccc 1200
gtgtctggact ccgacggctc cttcttcctc tacagcaggc taaccgtgga caagagcagg 1260
tggcaggagg ggaatgtctt ctcatgctcc gtgatgcatg aggtcttgca caaccactac 1320
acacagaaga gcctctccct gtctctgggt 1350

```

<210> 11
<211> 642
<212> DNA
<213> Artificial

<220>
<223> Miscellaneous construct

```

<400> 11
gacatccaga tgaccagtc tccatcctct ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgca gtgcaagtca gggcattcag tggatattaa actgggtatca gcagaaacca 120
gggaaagccc ctaagctcct gatctattac acatcaagtt tacactcagg ggtcccatca 180
aggttcagtg gcagtggatc tgggacagat ttactctca ccatcagcag tctgcaacct 240
gaagattttg caacttacta ctgtcagcag catagtaaac ttctcggac gttcggcgga 300
gggaccaagg tggagatcaa acggactgtg gctgcacat ctgtcttcat cttcccgcca 360
tctgatgagc agttgaaatc tggaactgcc tctgttgtgt gcctgctgaa taacttctat 420
cccagagagg ccaaagtaca gtggaaggtg gataacgccc tccaatcggg taactccag 480
gagagtgtca cagagcagga cagcaaggac agcacctaca gcctcagcag caccctgacg 540
ctgagcaaag cagactacga gaaacacaaa gtctacgcct gcgaagtcac ccatcagggc 600
ctgagctcgc ccgtcacaaa gagcttcaac aggggagagt gc 642

```

<210> 12
<211> 642
<212> DNA
<213> Artificial

FIGURE 8 Continued...

<220>

<223> Miscellaneous construct

<400> 12

gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc	60
atcacttgca aggccagtc ggatgtgcac actgctgtag cctggtatca gcagaaacca	120
gggaaagccc ctaagctcct gatctattgg gcatccacc ggtggactgg agtcccatca	180
aggttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct	240
gaagattttg caacttacta ctgtcagcaa tatagcgatt atccgtggac gttcggcgga	300
gggaccaagg tggagatcaa acggactgtg gctgcacat ctgtcttcat cttcccgcca	360
tctgatgagc agttgaaatc tggaaactgcc tctgttgtgt gcctgctgaa taacttctat	420
cccagagagg ccaaagtaca gtggaaggtg gataacgccc tccaatcggg taactcccag	480
gagagtgtca cagagcagga cagcaaggac agcacctaca gcctcagcag caccctgacg	540
ctgagcaaaag cagactacga gaaacacaaa gtctacgcct gcgaagtcac ccatcagggc	600
ctgagctcgc ccgtcacaaa gagcttcaac aggggagagt gc	642

<210> 13

<211> 639

<212> DNA

<213> Artificial

<220>

<223> Miscellaneous construct

<400> 13

gaaattgtgt tgacacagtc tccagccacc ctgtctttgt ctccagggga aagagccacc	60
ctctcctgca gtgccagctc aagtgttaagt tacatccact ggtaccaaca gaaacctggc	120
caggctccca ggctcctcat ctatagcaca tccgagctgg cttctggcat cccagccagg	180
ttcagtggca gtgggtctgg gacagacttc actctcacca tcagcagcct agagcctgaa	240
gattttgcag ttattactg tcagcagctt agtcatctcc cgctcacgtt cggcggaggg	300
accaaggtgg agatcaaacy aactgtggct gcaccatctg tcttcatctt cccgccatct	360
gatgagcagt tgaaatctgg aactgcctct gttgtgtgcc tgctgaataa cttctatccc	420
agagaggcca aagtacagtg gaaggtggat aacgcctcc aatcgggtaa ctcccaggag	480
agtgtcacag agcaggacag caaggacagc acctacagcc tcagcagcac cctgacgctg	540
agcaaagcag actacgagaa acacaaagtc tacgcctgcg aagtcacca tcagggcctg	600
agctcgcccg tcacaaagag cttcaacagg ggagagtgc	639

<210> 14

<211> 118

FIGURE 8 Continued...

<212> PRT

<213> Artificial

<220>

<223> Miscellaneous construct

<400> 14

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Phe Leu Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Thr Ile Tyr Pro Tyr His Asp Gly Thr Thr Tyr Ser Gln Lys Phe
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Glu Glu Glu Asp Gly Gln Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110

Thr Val Thr Val Ser Ser
 115

<210> 15

<211> 118

<212> PRT

<213> Artificial

<220>

<223> Miscellaneous construct

<400> 15

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Val Ser Gly Phe Pro Ile Lys Asp Thr
 20 25 30

Phe Gln His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45

FIGURE 8 Continued...

Gly Trp Ser Asp Pro Glu Ile Gly Asp Thr Glu Tyr Ala Ser Lys Phe
50 55 60

Gln Gly Arg Val Thr Met Thr Glu Asp Thr Ser Thr Asp Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Thr Gly Asp Thr Thr Tyr Lys Phe Asp Phe Trp Gly Gln Gly Thr
100 105 110

Thr Val Thr Val Ser Ser
115

<210> 16
<211> 124
<212> PRT
<213> Artificial

<220>
<223> Miscellaneous construct

<400> 16

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Glu
1 5 10 15

Ser Leu Lys Ile Ser Cys Lys Gly Ser Asp Phe Glu Ile Lys Asp Tyr
20 25 30

Tyr Ile His Trp Val Arg Gln Met Pro Gly Lys Gly Leu Glu Trp Met
35 40 45

Gly Gln Ile Asp Ala Glu Asp Gly Glu Thr Glu Tyr Ala Pro Arg Phe
50 55 60

Gln Gly Gln Val Thr Ile Ser Ala Asp Lys Ser Ile Ser Thr Ala Tyr
65 70 75 80

Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met Tyr Tyr Cys
85 90 95

Ala Arg Glu Gly Tyr Tyr Tyr Asp Gly Arg Asp Tyr Trp Tyr Phe Asp
100 105 110

Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

FIGURE 8 Continued...

<210> 17
 <211> 107
 <212> PRT
 <213> Artificial

<220>
 <223> Miscellaneous construct

<400> 17

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Ser Ala Ser Gln Gly Ile Gln Trp Tyr
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Tyr Thr Ser Ser Leu His Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln His Ser Lys Leu Pro Arg
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 18
 <211> 107
 <212> PRT
 <213> Artificial

<220>
 <223> Miscellaneous construct

<400> 18

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Val His Thr Ala
 20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

FIGURE 8 Continued...

Tyr Trp Ala Ser Thr Arg Trp Thr Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Asp Tyr Pro Trp
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 19
<211> 106
<212> PRT
<213> Artificial

<220>
<223> Miscellaneous construct

<400> 19

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Ser Ala Ser Ser Ser Val Ser Tyr Ile
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr
35 40 45

Ser Thr Ser Glu Leu Ala Ser Gly Ile Pro Ala Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro Glu
65 70 75 80

Asp Phe Ala Val Tyr Tyr Cys Gln Gln Leu Ser His Leu Pro Leu Thr
85 90 95

Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 20
<211> 10
<212> PRT
<213> Artificial

<220>

FIGURE 8 Continued...

<223> Miscellaneous construct

<400> 20

Gly Tyr Thr Phe Thr Asp Tyr Phe Leu Asn
1 5 10

<210> 21

<211> 17

<212> PRT

<213> Artificial

<220>

<223> Miscellaneous construct

<400> 21

Thr Ile Tyr Pro Tyr His Asp Gly Thr Thr Tyr Ser Gln Lys Phe Lys
1 5 10 15

Gly

<210> 22

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Miscellaneous construct

<400> 22

Glu Glu Glu Asp Gly Gln Phe Asp Tyr
1 5

<210> 23

<211> 11

<212> PRT

<213> Artificial

<220>

<223> Miscellaneous construct

<400> 23

Ser Ala Ser Gln Gly Ile Gln Trp Tyr Leu Asn
1 5 10

<210> 24

<211> 7

<212> PRT

<213> Artificial

<220>

<223> Miscellaneous construct

FIGURE 8 Continued...

32

<400> 24

Tyr Thr Ser Ser Leu His Ser
1 5

<210> 25

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Miscellaneous construct

<400> 25

Gln Gln His Ser Lys Leu Pro Arg Thr
1 5

<210> 26

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Miscellaneous construct

<400> 26

Gly Phe Pro Ile Lys Asp Thr Phe Gln His
1 5 10

<210> 27

<211> 17

<212> PRT

<213> Artificial

<220>

<223> Miscellaneous construct

<400> 27

Trp Ser Asp Pro Glu Ile Gly Asp Thr Glu Tyr Ala Ser Lys Phe Gln
1 5 10 15

Gly

<210> 28

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Miscellaneous construct

FIGURE 8 Continued...

<400> 28

Gly Asp Thr Thr Tyr Lys Phe Asp Phe
1 5

<210> 29

<211> 11

<212> PRT

<213> Artificial

<220>

<223> Miscellaneous construct

<400> 29

Lys Ala Ser Gln Asp Val His Thr Ala Val Ala
1 5 10

<210> 30

<211> 7

<212> PRT

<213> Artificial

<220>

<223> Miscellaneous construct

<400> 30

Trp Ala Ser Thr Arg Trp Thr
1 5

<210> 31

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Miscellaneous construct

<400> 31

Gln Gln Tyr Ser Asp Tyr Pro Trp Thr
1 5

<210> 32

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Miscellaneous construct

<400> 32

Asp Phe Glu Ile Lys Asp Tyr Tyr Ile His
1 5 10

FIGURE 8 Continued...

<210> 33
<211> 17
<212> PRT
<213> Artificial

<220>
<223> Miscellaneous construct

<400> 33

Gln	Ile	Asp	Ala	Glu	Asp	Gly	Glu	Thr	Glu	Tyr	Ala	Pro	Arg	Phe	Gln
1				5					10					15	

Gly

<210> 34
<211> 17
<212> PRT
<213> Artificial

<220>
<223> Miscellaneous construct

<400> 34

Gln	Ile	Asp	Ala	Glu	Asp	Gly	Glu	Thr	Glu	Tyr	Ala	Pro	Arg	Phe	Gln
1				5					10					15	

Gly

<210> 35
<211> 17
<212> PRT
<213> Artificial

<220>
<223> Miscellaneous construct

<400> 35

Gln	Ile	Asp	Ala	Glu	Asp	Gly	Glu	Thr	Glu	Tyr	Ala	Pro	Arg	Phe	Gln
1				5					10					15	

Gly

<210> 36
<211> 7
<212> PRT
<213> Artificial

<220>

FIGURE 8 Continued...

<223> Miscellaneous construct

<400> 36

Ser Thr Ser Glu Leu Ala Ser
1 5

<210> 37

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Miscellaneous construct

<400> 37

Gln Gln Leu Ser His Leu Pro Leu Thr
1 5

<210> 38

<211> 322

<212> PRT

<213> Artificial

<220>

<223> Miscellaneous construct

<400> 38

Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu
1 5 10 15

Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro
20 25 30

Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr
35 40 45

Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val
50 55 60

Val Thr Val Pro Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn
65 70 75 80

Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser
85 90 95

Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly
100 105 110

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met

FIGURE 8 Continued...

115	120	125
Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln 130 135 140		
Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val 145 150 155 160		
His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr 165 170 175		
Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly 180 185 190		
Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile 195 200 205		
Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val 210 215 220		
Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser 225 230 235 240		
Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu 245 250 255		
Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro 260 265 270		
Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val 275 280 285		
Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met 290 295 300		
His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser 305 310 315 320		
Leu Gly		

<210> 39
 <211> 970
 <212> DNA
 <213> Artificial

<220>

FIGURE 8 Continued...

<223> Miscellaneous construct

<400> 39

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ggcccatcgg tcttcccgct agcgccctgc tccaggagca cctccgagag cacagccgcc      60
ctgggctgcc tggtaagga ctacttcccc gaaccgggtga cgggtgcgtg gaactcaggc      120
gccctgacca gggcgctgca caccttcccc gctgtcctac agtcctcagg actctactcc      180
gctcagcagc gtggtgaccg tgcctccag cagcttgggc acgaagacct acacctgcaa      240
cgtagatcac aagcccagca acaccaaggt ggacaagaga gttgagtcca aatatgggtcc      300
cccatgccca ccctgccag cacctgagtt cctgggggga ccatcagtct tcctgttccc      360
ccaaaaccc aaggacactc tcatgatctc ccggaccctc gaggtcacgt gcgtggtggt      420
ggacgtgagc caggaagacc ccgaggtcca gttcaactgg tacgtggatg gcgtggaggt      480
gcataatgcc aagacaaagc cgcgggagga gcagttcaac agcacgtacc gtgtggtcag      540
cgtcctcacc gtcctgcacc aggactggct gaacggcaag gagtacaagt gcaaggctctc      600
caacaaaggc ctcccgctct ccatcgagaa aaccatctcc aaagccaaag ggcagccccg      660
agagccacag gtgtacaccc tgccccatc ccaggaggag atgaccaaga accaggtcag      720
cctgacctgc ctggtcaaag gcttctaccc cagcgacatc gccgtggagt gggaaagcaa      780
tgggcagccg gagaacaact acaagaccac gcctcccggt ctggactccg acggctcctt      840
cttcctctac agcaggctaa ccgtggacaa gagcaggtgg caggagggga atgtcttctc      900
atgtccgtg atgcatgagg ctctgcacaa ccactacaca cagaagagcc tctccctgtc      960
tctgggttga                                     970

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<210> 40

<211> 444

<212> PRT

<213> Artificial

<220>

<223> Miscellaneous construct

<400> 40

```

Glu Val Gln Leu Gln Gln Ser Val Ala Glu Leu Val Arg Pro Gly Ala
1           5           10          15

```

```

Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Asn Ile Lys Ser Thr
20           25           30

```

```

Phe Met His Trp Val Lys Gln Arg Pro Asp Gln Gly Leu Glu Trp Ile
35           40           45

```

```

Gly Trp Ile Asp Pro Glu Asn Gly Asp Thr Glu Tyr Ala Ser Lys Phe

```

FIGURE 8 Continued...

50						55					60				
Gln 65	Gly	Lys	Ala	Thr	Met 70	Thr	Ala	Asp	Thr	Ser 75	Ser	Asn	Thr	Ala	Tyr 80
Leu	Gln	Leu	Ser	Ser 85	Leu	Thr	Ser	Glu	Asp 90	Thr	Ala	Val	Tyr	Tyr 95	Cys
Thr	Thr	Gly	Glu 100	Ser	Asn	Tyr	Asp	Phe 105	Asp	Phe	Trp	Gly	Leu 110	Gly	Thr
Thr	Leu	Thr 115	Val	Ser	Ser	Ala	Lys 120	Thr	Thr	Pro	Pro	Ser 125	Val	Tyr	Pro
Leu	Ala	Pro	Gly	Thr	Ala	Leu 135	Lys	Ser	Asn	Ser	Met 140	Val	Thr	Leu	Gly
Cys 145	Leu	Val	Lys	Gly	Tyr 150	Phe	Pro	Glu	Pro	Val 155	Thr	Val	Thr	Trp	Asn 160
Ser	Gly	Ala	Leu	Ser 165	Ser	Gly	Val	His	Thr 170	Phe	Pro	Ala	Val	Leu	Gln
Ser	Gly	Leu	Tyr 180	Thr	Leu	Thr	Ser	Ser 185	Val	Thr	Val	Pro	Ser 190	Ser	Thr
Trp	Pro	Ser 195	Gln	Thr	Val	Thr	Cys 200	Asn	Val	Ala	His	Pro 205	Ala	Ser	Ser
Thr 210	Lys	Val	Asp	Lys	Lys	Ile 215	Val	Pro	Arg	Asn	Cys 220	Gly	Gly	Asp	Cys
Lys 225	Pro	Cys	Ile	Cys	Thr 230	Gly	Ser	Glu	Val	Ser 235	Ser	Val	Phe	Ile	Phe 240
Pro	Pro	Lys	Pro	Lys 245	Asp	Val	Leu	Thr	Ile 250	Thr	Leu	Thr	Pro	Lys 255	Val
Thr	Cys	Val	Val 260	Val	Asp	Ile	Ser	Gln 265	Asp	Asp	Pro	Glu	Val 270	His	Phe
Ser	Trp	Phe 275	Val	Asp	Asp	Val	Glu 280	Val	His	Thr	Ala	Gln 285	Thr	Arg	Pro
Pro	Glu 290	Glu	Gln	Phe	Asn	Ser 295	Thr	Phe	Arg	Ser	Val 300	Ser	Glu	Leu	Pro

FIGURE 8 Continued...

Ile Leu His Gln Asp Trp Leu Asn Gly Arg Thr Phe Arg Cys Lys Val
305 310 315 320

Thr Ser Ala Ala Phe Pro Ser Pro Ile Glu Lys Thr Ile Ser Lys Pro
325 330 335

Glu Gly Arg Thr Gln Val Pro His Val Tyr Thr Met Ser Pro Thr Lys
340 345 350

Glu Glu Met Thr Gln Asn Glu Val Ser Ile Thr Cys Met Val Lys Gly
355 360 365

Phe Tyr Pro Pro Asp Ile Tyr Val Glu Trp Gln Met Asn Gly Gln Pro
370 375 380

Gln Glu Asn Tyr Lys Asn Thr Pro Pro Thr Met Asp Thr Asp Gly Ser
385 390 395 400

Tyr Phe Leu Tyr Ser Lys Leu Asn Val Lys Lys Glu Lys Trp Gln Gln
405 410 415

Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu Gly Leu His Asn His
420 425 430

His Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys
435 440

<210> 41
<211> 214
<212> PRT
<213> Artificial

<220>
<223> Miscellaneous construct

<400> 41

Asp Ile Val Met Thr Gln Ser His Lys Phe Met Ser Thr Ser Val Gly
1 5 10 15

Asp Arg Val Ser Ile Thr Cys Lys Ala Ser Gln Asp Val Ser Thr Ala
20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile
35 40 45

Tyr Trp Ala Ser Thr Arg His Thr Gly Val Pro Asp Arg Phe Thr Gly

FIGURE 8 Continued...

50 55 60
 Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Asp Val Gln Ser
 65 70 75 80
 Glu Asp Leu Ala Asp Tyr Phe Cys Gln Gln Tyr Ser Asn Tyr Pro Trp
 85 90 95
 Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala Asp Ala Ala
 100 105 110
 Pro Thr Val Ser Ile Phe Pro Pro Ser Thr Glu Gln Leu Ala Thr Gly
 115 120 125
 Gly Ala Ser Val Val Cys Leu Met Asn Asn Phe Tyr Pro Arg Asp Ile
 130 135 140
 Ser Val Lys Trp Lys Ile Asp Gly Thr Glu Arg Arg Asp Gly Val Leu
 145 150 155 160
 Asp Ser Val Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met Ser
 165 170 175
 Ser Thr Leu Ser Leu Ser Lys Ala Asp Tyr Glu Ser His Asn Leu Tyr
 180 185 190
 Thr Cys Glu Val Val His Lys Thr Ser Ser Ser Pro Val Val Lys Ser
 195 200 205
 Phe Asn Arg Asn Glu Cys
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 <213> Artificial

 <220>
 <223> Miscellaneous construct

 <400> 42

 Glu Val Gln Leu Gln Gln Ser Gly Ala Glu His Val Lys Pro Gly Ala
 1 5 10 15
 Ser Val Lys Leu Ser Cys Thr Ala Ser Asp Phe Asn Ile Lys Asp Tyr
 20 25 30

FIGURE 8 Continued...

Tyr Ile His Trp Val Lys Gln Arg Thr Ala Gln Gly Leu Glu Trp Ile
 35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Glu Thr Glu Tyr Ala Pro Arg Phe
 50 55 60

Gln Gly Lys Ala Thr Ile Ile Ala Asp Thr Ser Ser Asn Thr Ala Tyr
 65 70 75 80

Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Glu Gly Tyr Tyr Tyr Asp Ser Arg Asp Tyr Trp Tyr Phe Asp
 100 105 110

Val Trp Gly Thr Gly Thr Thr Val Thr Val Ser Ser Ala Lys Thr Thr
 115 120 125

Pro Pro Ser Val Tyr Pro Leu Ala Pro Gly Thr Ala Leu Lys Ser Asn
 130 135 140

Ser Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro
 145 150 155 160

Val Thr Val Thr Trp Asn Ser Gly Ala Leu Ser Ser Gly Val His Thr
 165 170 175

Phe Pro Ala Val Leu Gln Ser Gly Leu Tyr Thr Leu Thr Ser Ser Val
 180 185 190

Thr Val Pro Ser Ser Thr Trp Pro Ser Gln Thr Val Thr Cys Asn Val
 195 200 205

Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val Pro Arg
 210 215 220

Asn Cys Gly Gly Asp Cys Lys Pro Cys Ile Cys Thr Gly Ser Glu Val
 225 230 235 240

Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr Ile
 245 250 255

Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Gln Asp
 260 265 270

Asp Pro Glu Val His Phe Ser Trp Phe Val Asp Asp Val Glu Val His

FIGURE 8 Continued...

275	280	285
Thr Ala Gln Thr Arg Pro Pro Glu Glu Gln Phe Asn Ser Thr Phe Arg		
290	295	300
Ser Val Ser Glu Leu Pro Ile Leu His Gln Asp Trp Leu Asn Gly Arg		
305	310	315 320
Thr Phe Arg Cys Lys Val Thr Ser Ala Ala Phe Pro Ser Pro Ile Glu		
	325	330 335
Lys Thr Ile Ser Lys Pro Glu Gly Arg Thr Gln Val Pro His Val Tyr		
	340	345 350
Thr Met Ser Pro Thr Lys Glu Glu Met Thr Gln Asn Glu Val Ser Ile		
	355	360 365
Thr Cys Met Val Lys Gly Phe Tyr Pro Pro Asp Ile Tyr Val Glu Trp		
	370	375 380
Gln Met Asn Gly Gln Pro Gln Glu Asn Tyr Lys Asn Thr Pro Pro Thr		
385	390	395 400
Met Asp Thr Asp Gly Ser Tyr Phe Leu Tyr Ser Lys Leu Asn Val Lys		
	405	410 415
Lys Glu Lys Trp Gln Gln Gly Asn Thr Phe Thr Cys Ser Val Leu His		
	420	425 430
Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser Pro		
	435	440 445
Gly Lys		
450		
<210> 43		
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<213> Artificial		
<220>		
<223> Miscellaneous construct		
<400> 43		
Glu Ile Val Leu Thr Gln Ser Pro Ala Leu Met Ser Ala Ser Pro Gly		
1	5	10 15

FIGURE 8 Continued...

Glu	Lys	Val	Thr	Met	Thr	Cys	Ser	Ala	Ser	Ser	Ser	Val	Ser	Tyr	Met	20	25	30	
His	Trp	Phe	Gln	Gln	Lys	Pro	Gly	Thr	Ser	Pro	Lys	Leu	Trp	Ile	Tyr	35	40	45	
Ser	Thr	Ser	Asn	Leu	Ala	Ser	Gly	Val	Pro	Ala	Arg	Phe	Ser	Gly	Ser	50	55	60	
Gly	Ser	Gly	Thr	Ser	Tyr	Ser	Leu	Thr	Ile	Ser	Ser	Met	Glu	Ala	Glu	65	70	75	80
Asp	Ala	Ala	Thr	Tyr	Tyr	Cys	Gln	Gln	Trp	Ser	Ser	Asn	Pro	Leu	Thr	85	90	95	
Phe	Gly	Ala	Gly	Thr	Lys	Leu	Glu	Leu	Lys	Arg	Ala	Asp	Ala	Ala	Pro	100	105	110	
Thr	Val	Ser	Ile	Phe	Pro	Pro	Ser	Thr	Glu	Gln	Leu	Ala	Thr	Gly	Gly	115	120	125	
Ala	Ser	Val	Val	Cys	Leu	Met	Asn	Asn	Phe	Tyr	Pro	Arg	Asp	Ile	Ser	130	135	140	
Val	Lys	Trp	Lys	Ile	Asp	Gly	Thr	Glu	Arg	Arg	Asp	Gly	Val	Leu	Asp	145	150	155	160
Ser	Val	Thr	Asp	Gln	Asp	Ser	Lys	Asp	Ser	Thr	Tyr	Ser	Met	Ser	Ser	165	170	175	
Thr	Leu	Ser	Leu	Ser	Lys	Ala	Asp	Tyr	Glu	Ser	His	Asn	Leu	Tyr	Thr	180	185	190	
Cys	Glu	Val	Val	His	Lys	Thr	Ser	Ser	Ser	Pro	Val	Val	Lys	Ser	Phe	195	200	205	
Asn	Arg	Asn	Glu	Cys												210			

FIGURE 9

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<400> 1

Gly Phe Thr Phe Ser Ser Tyr Val Met Asn
1 5 10

<210> 2
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<213> Homo sapiens

<400> 2

Gly Phe Thr Phe Arg Ser His Trp Leu Ser
1 5 10

<210> 3
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<400> 3

Gly Phe Thr Phe Ser Ser Tyr Val Met Asn
1 5 10

<210> 4
<211> 10
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<213> Homo sapiens

FIGURE 9 Continued...

<400> 4

Gly	Phe	Thr	Phe	Arg	Ser	His	Trp	Leu	Ser
1				5				10	

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<213> Homo sapiens

<400> 5

Gly	Phe	Thr	Phe	Arg	Ser	His	Trp	Leu	Ser
1				5				10	

<210> 6
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<213> Homo sapiens

<400> 6

Gly	Phe	Thr	Phe	Arg	Ser	His	Trp	Leu	Ser
1				5				10	

<210> 7
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<213> Homo sapiens

<400> 7

Gly	Phe	Thr	Phe	Arg	Ser	His	Trp	Leu	Ser
1				5				10	

<210> 8
<211> 10
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<213> Homo sapiens

<400> 8

Gly	Phe	Thr	Phe	Arg	Ser	His	Trp	Leu	Ser
1				5				10	

<210> 9
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<213> Homo sapiens

<400> 9

Gly	Phe	Thr	Phe	Arg	Ser	His	Trp	Leu	Ser
1				5				10	

FIGURE 9 Continued...

<210> 10
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<213> Homo sapiens

<400> 10

Gly Phe Thr Phe Arg Ser His Trp Leu Ser
1 5 10

<210> 11
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<400> 11

Gly Phe Thr Phe Arg Ser His Trp Leu Ser
1 5 10

<210> 12
<211> 20
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<400> 12

Trp Val Ser Phe Ile Ser Gly Asp Ser Ser Asn Thr Tyr Tyr Ala Asp
1 5 10 15

Ser Val Lys Gly
20

<210> 13
<211> 20
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<213> Homo sapiens

<400> 13

Trp Val Ser Asn Ile Asn Tyr Asp Gly Ser Ser Thr Tyr Tyr Ala Asp
1 5 10 15

Ser Val Lys Gly
20

<210> 14
<211> 20
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<213> Homo sapiens

<400> 14

Trp Val Ser Phe Ile Ser Gly Asp Ser Ser Asn Thr Tyr Tyr Ala Asp

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1              5              10              15

Ser Val Lys Gly
      20

<210>  15
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<400>  15

Trp Val Ser Asn Ile Asn Tyr Asp Gly Ser Ser Thr Tyr Tyr Ala Asp
1              5              10              15

Ser Val Lys Gly
      20

<210>  16
<211>  19
<212>  PRT
<213>  Homo sapiens

<400>  16

Trp Val Ser Val Thr Gly Val His Gly Asp Thr Tyr Tyr Ala Asp Ser
1              5              10              15

Val Lys Gly

<210>  17
<211>  19
<212>  PRT
<213>  Homo sapiens

<400>  17

Trp Val Ser Val Ile Gly Asn Trp Gly Asp Thr Tyr Tyr Ala Asp Ser
1              5              10              15

Val Lys Gly

<210>  18
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<213>  Homo sapiens

<400>  18

Trp Val Ser Val Thr Thr His Gln Gly Tyr Thr Tyr Tyr Ala Asp Ser
1              5              10              15

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FIGURE 9 Continued...

Val Lys Gly

<210> 19
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<213> Homo sapiens

<400> 19

Trp Val Ser Ala Thr Asn Arg Tyr Gly Tyr Thr Tyr Tyr Ala Asp Ser
1 5 10 15

Val Lys Gly

<210> 20
<211> 20
<212> PRT
<213> Homo sapiens

<400> 20

Trp Val Ser Asn Ile Asn Tyr Asp Gly Ser Ser Thr Tyr Tyr Ala Asp
1 5 10 15

Ser Val Lys Gly
20

<210> 21
<211> 19
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<213> Homo sapiens

<400> 21

Trp Val Ser Val Ile Thr Pro Tyr Gly Asp Thr Tyr Tyr Ala Asp Ser
1 5 10 15

Val Lys Gly

<210> 22
<211> 19
<212> PRT
<213> Homo sapiens

<400> 22

Trp Val Ser Val Ile Thr Pro Tyr Gly Asp Thr Tyr Tyr Ala Asp Ser
1 5 10 15

FIGURE 9 Continued...

Val Lys Gly

<210> 23
<211> 15
<212> PRT
<213> Homo sapiens

<400> 23

Thr Phe Met His Gly His Leu Gly Gly Gly Leu Ser Met Asp Phe
1 5 10 15

<210> 24
<211> 8
<212> PRT
<213> Homo sapiens

<400> 24

Asp Thr Tyr Leu His Phe Asp Tyr
1 5

<210> 25
<211> 15
<212> PRT
<213> Homo sapiens

<400> 25

Thr Phe Met His Gly His Leu Gly Gly Gly Leu Ser Met Asp Phe
1 5 10 15

<210> 26
<211> 8
<212> PRT
<213> Homo sapiens

<400> 26

Asp Thr Tyr Leu His Phe Asp Tyr
1 5

<210> 27
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<212> PRT
<213> Homo sapiens

<400> 27

Asp Thr Tyr Leu His Phe Asp Tyr
1 5

<210> 28

FIGURE 9 Continued...

<211> 8
<212> PRT
<213> Homo sapiens

<400> 28

Asp Thr Tyr Leu His Phe Asp Tyr
1 5

<210> 29
<211> 8
<212> PRT
<213> Homo sapiens

<400> 29

Asp Thr Tyr Leu His Phe Asp Tyr
1 5

<210> 30
<211> 8
<212> PRT
<213> Homo sapiens

<400> 30

Asp Thr Tyr Leu His Phe Asp Tyr
1 5

<210> 31
<211> 8
<212> PRT
<213> Homo sapiens

<400> 31

Asp Thr Tyr Leu His Phe Asp Tyr
1 5

<210> 32
<211> 8
<212> PRT
<213> Homo sapiens

<400> 32

Asp Thr Tyr Leu His Phe Asp Tyr
1 5

<210> 33
<211> 8
<212> PRT
<213> Homo sapiens

<400> 33

FIGURE 9 Continued...

Asp Thr Tyr Leu His Phe Asp Tyr
1 5

<210> 34
<211> 11
<212> PRT
<213> Homo sapiens

<400> 34

Ser Gly Asp Asn Ile Gly Ser Phe Tyr Val His
1 5 10

<210> 35
<211> 20
<212> PRT
<213> Homo sapiens

<400> 35

Trp Val Ser Asn Ile Asn Tyr Asp Gly Ser Ser Thr Tyr Tyr Ala Asp
1 5 10 15

Ser Val Lys Gly
20

<210> 36
<211> 11
<212> PRT
<213> Homo sapiens

<400> 36

Ser Gly Asp Asn Ile Gly Ser Phe Tyr Val His
1 5 10

<210> 37
<211> 14
<212> PRT
<213> Homo sapiens

<400> 37

Thr Gly Thr Ser Ser Asp Val Gly Asp Ile Asn Asp Val Ser
1 5 10

<210> 38
<211> 14
<212> PRT
<213> Homo sapiens

<400> 38

Thr Gly Thr Ser Ser Asp Val Gly Asp Ile Asn Asp Val Ser
1 5 10

FIGURE 9 Continued...

<210> 39
<211> 14
<212> PRT
<213> Homo sapiens

<400> 39

Thr	Gly	Thr	Ser	Ser	Asp	Val	Gly	Asp	Ile	Asn	Asp	Val	Ser
1				5					10				

<210> 40
<211> 14
<212> PRT
<213> Homo sapiens

<400> 40

Thr	Gly	Thr	Ser	Ser	Asp	Val	Gly	Asp	Ile	Asn	Asp	Val	Ser
1				5					10				

<210> 41
<211> 14
<212> PRT
<213> Homo sapiens

<400> 41

Thr	Gly	Thr	Ser	Ser	Asp	Val	Gly	Asp	Ile	Asn	Asp	Val	Ser
1				5					10				

<210> 42
<211> 14
<212> PRT
<213> Homo sapiens

<400> 42

Thr	Gly	Thr	Ser	Ser	Asp	Val	Gly	Asp	Ile	Asn	Asp	Val	Ser
1				5					10				

<210> 43
<211> 14
<212> PRT
<213> Homo sapiens

<400> 43

Thr	Gly	Thr	Ser	Ser	Asp	Val	Gly	Asp	Ile	Asn	Asp	Val	Ser
1				5					10				

<210> 44
<211> 14
<212> PRT
<213> Homo sapiens

FIGURE 9 Continued...

<400> 44

Thr	Gly	Thr	Ser	Ser	Asp	Val	Gly	Asp	Ile	Asn	Asp	Val	Ser
1				5					10				

<210> 45

<211> 11

<212> PRT

<213> Homo sapiens

<400> 45

Leu	Val	Ile	Tyr	Asp	Asp	Asn	Asn	Arg	Pro	Ser
1				5					10	

<210> 46

<211> 11

<212> PRT

<213> Homo sapiens

<400> 46

Leu	Met	Ile	Tyr	Asp	Val	Asn	Asn	Arg	Pro	Ser
1				5					10	

<210> 47

<211> 11

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<213> Homo sapiens

<400> 47

Leu	Val	Ile	Tyr	Asp	Asp	Asn	Asn	Arg	Pro	Ser
1				5					10	

<210> 48

<211> 11

<212> PRT

<213> Homo sapiens

<400> 48

Leu	Met	Ile	Tyr	Asp	Val	Asn	Asn	Arg	Pro	Ser
1				5					10	

<210> 49

<211> 11

<212> PRT

<213> Homo sapiens

<400> 49

Leu	Met	Ile	Tyr	Asp	Val	Asn	Asn	Arg	Pro	Ser
1				5					10	

FIGURE 9 Continued...

<210> 50
<211> 11
<212> PRT
<213> Homo sapiens

<400> 50

Leu	Met	Ile	Tyr	Asp	Val	Asn	Asn	Arg	Pro	Ser
1				5					10	

<210> 51
<211> 11
<212> PRT
<213> Homo sapiens

<400> 51

Leu	Met	Ile	Tyr	Asp	Val	Asn	Asn	Arg	Pro	Ser
1				5					10	

<210> 52
<211> 11
<212> PRT
<213> Homo sapiens

<400> 52

Leu	Met	Ile	Tyr	Asp	Val	Asn	Asn	Arg	Pro	Ser
1				5					10	

<210> 53
<211> 11
<212> PRT
<213> Homo sapiens

<400> 53

Leu	Met	Ile	Tyr	Asp	Val	Asn	Asn	Arg	Pro	Ser
1				5					10	

<210> 54
<211> 11
<212> PRT
<213> Homo sapiens

<400> 54

Leu	Met	Ile	Tyr	Asp	Val	Asn	Asn	Arg	Pro	Ser
1				5					10	

<210> 55
<211> 11
<212> PRT
<213> Homo sapiens

FIGURE 9 Continued...

<400> 55

Leu	Met	Ile	Tyr	Asp	Val	Asn	Asn	Arg	Pro	Ser
1				5					10	

<210> 56

<211> 10

<212> PRT

<213> Homo sapiens

<400> 56

Gly	Ser	Trp	Ala	Gly	Ser	Ser	Gly	Ser	Tyr
1				5					10

<210> 57

<211> 10

<212> PRT

<213> Homo sapiens

<400> 57

Ser	Ser	Tyr	Gly	Glu	Ser	Leu	Thr	Ser	Tyr
1				5					10

<210> 58

<211> 10

<212> PRT

<213> Homo sapiens

<400> 58

Ala	Ser	Trp	Thr	Gly	Val	Glu	Pro	Asp	Tyr
1				5					10

<210> 59

<211> 10

<212> PRT

<213> Homo sapiens

<400> 59

Gln	Ser	Tyr	Ala	Gly	Ser	Tyr	Leu	Ser	Glu
1				5					10

<210> 60

<211> 10

<212> PRT

<213> Homo sapiens

<400> 60

Ser	Ser	Tyr	Gly	Glu	Ser	Leu	Thr	Ser	Tyr
1				5					10

FIGURE 9 Continued...

<210> 61
<211> 10
<212> PRT
<213> Homo sapiens

<400> 61

Ser	Ser	Tyr	Gly	Glu	Ser	Leu	Thr	Ser	Tyr
1				5					10

<210> 62
<211> 10
<212> PRT
<213> Homo sapiens

<400> 62

Ser	Ser	Tyr	Gly	Glu	Ser	Leu	Thr	Ser	Tyr
1				5					10

<210> 63
<211> 10
<212> PRT
<213> Homo sapiens

<400> 63

Ser	Ser	Tyr	Gly	Glu	Ser	Leu	Thr	Ser	Tyr
1				5					10

<210> 64
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<212> PRT
<213> Homo sapiens

<400> 64

Ser	Thr	Tyr	Asp	Gly	Pro	Gly	Leu	Ser	Glu
1				5					10

<210> 65
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<213> Homo sapiens

<400> 65

Ser	Ser	Tyr	Gly	Glu	Ser	Leu	Thr	Ser	Tyr
1				5					10

<210> 66
<211> 10
<212> PRT
<213> Homo sapiens

<400> 66

FIGURE 9 Continued...

Ser Ser Tyr Gly Glu Ser Leu Thr Ser Tyr
1 5 10

<210> 67
<211> 124
<212> PRT
<213> Homo sapiens

<400> 67

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Val Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Phe Ile Ser Gly Asp Ser Ser Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Phe Met His Gly His Leu Gly Gly Gly Leu Ser Met Asp
100 105 110

Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 68
<211> 117
<212> PRT
<213> Homo sapiens

<400> 68

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Ser His
20 25 30

Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

FIGURE 9 Continued...

Ser Asn Ile Asn Tyr Asp Gly Ser Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 69
<211> 124
<212> PRT
<213> Homo sapiens

<400> 69

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Val Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Phe Ile Ser Gly Asp Ser Ser Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Phe Met His Gly His Leu Gly Gly Gly Leu Ser Met Asp
100 105 110

Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

FIGURE 9 Continued...

<210> 70
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<400> 70

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Ser His
 20 25 30

Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Asn Ile Asn Tyr Asp Gly Ser Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly Thr Leu
 100 105 110

Val Thr Val Ser Ser
 115

<210> 71
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<400> 71

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Ser His
 20 25 30

Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Val Thr Gly Val His Gly Asp Thr Tyr Tyr Ala Asp Ser Val Lys
 50 55 60

FIGURE 9 Continued...

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 72
<211> 116
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<213> Homo sapiens

<400> 72

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Ser His
20 25 30

Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Val Ile Gly Asn Trp Gly Asp Thr Tyr Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 73
<211> 116
<212> PRT
<213> Homo sapiens

FIGURE 9 Continued...

<400> 73

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Ser His
20 25 30

Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Val Thr Thr His Gln Gly Tyr Thr Tyr Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 74

<211> 116

<212> PRT

<213> Homo sapiens

<400> 74

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Ser His
20 25 30

Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Thr Asn Arg Tyr Gly Tyr Thr Tyr Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65 70 75 80

FIGURE 9 Continued...

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
 85 90 95

Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 75
 <211> 117
 <212> PRT
 <213> Homo sapiens

<400> 75

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Ser His
 20 25 30

Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Asn Ile Asn Tyr Asp Gly Ser Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly Thr Leu
 100 105 110

Val Thr Val Ser Ser
 115

<210> 76
 <211> 116
 <212> PRT
 <213> Homo sapiens

<400> 76

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

FIGURE 9 Continued...

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Ser His
20 25 30

Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Val Ile Thr Pro Tyr Gly Asp Thr Tyr Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 77
<211> 116
<212> PRT
<213> Homo sapiens

<400> 77

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Ser His
20 25 30

Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Val Ile Thr Pro Tyr Gly Asp Thr Tyr Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val

FIGURE 9 Continued...

100	105	110
Thr Val Ser Ser		
115		
<210> 78		
<211> 110		
<212> PRT		
<213> Homo sapiens		
<400> 78		
Asp Ile Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro Gly Gln		
1 5 10 15		
Thr Ala Arg Ile Ser Cys Ser Gly Asp Asn Ile Gly Ser Phe Tyr Val		
20 25 30		
His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr		
35 40 45		
Asp Asp Asn Asn Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser		
50 55 60		
Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Thr Gln Ala Glu		
65 70 75 80		
Asp Glu Ala Asp Tyr Tyr Cys Gly Ser Trp Ala Gly Ser Ser Gly Ser		
85 90 95		
Tyr Val Phe Gly Gly Arg Thr Lys Leu Thr Val Leu Gly Gln		
100 105 110		
<210> 79		
<211> 113		
<212> PRT		
<213> Homo sapiens		
<400> 79		
Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln		
1 5 10 15		
Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Asp Ile		
20 25 30		
Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu		
35 40 45		

FIGURE 9 Continued...

Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val Ser Asn Arg Phe
50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Tyr Gly Glu Ser
85 90 95

Leu Thr Ser Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105 110

Gln

<210> 80
<211> 110
<212> PRT
<213> Homo sapiens

<400> 80

Asp Ile Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro Gly Gln
1 5 10 15

Thr Ala Arg Ile Ser Cys Ser Gly Asp Asn Ile Gly Ser Phe Tyr Val
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr
35 40 45

Asp Asp Asn Asn Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
50 55 60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Thr Gln Ala Glu
65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Trp Thr Gly Val Glu Pro Asp
85 90 95

Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gln
100 105 110

<210> 81
<211> 113
<212> PRT
<213> Homo sapiens

<400> 81

FIGURE 9 Continued...

Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
1 5 10 15

Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Asp Ile
20 25 30

Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
35 40 45

Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val Ser Asn Arg Phe
50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Ala Gly Ser
85 90 95

Tyr Leu Ser Glu Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105 110

Gln

<210> 82
<211> 113
<212> PRT
<213> Homo sapiens

<400> 82

Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
1 5 10 15

Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Asp Ile
20 25 30

Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
35 40 45

Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val Ser Asn Arg Phe
50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Tyr Gly Glu Ser

FIGURE 9 Continued...

			85						90					95			
Leu	Thr	Ser	Tyr	Val	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Thr	Val	Leu	Gly		
			100					105					110				

Gln

<210> 83
 <211> 113
 <212> PRT
 <213> Homo sapiens

<400> 83

Asp	Ile	Ala	Leu	Thr	Gln	Pro	Ala	Ser	Val	Ser	Gly	Ser	Pro	Gly	Gln		
1				5					10					15			

Ser	Ile	Thr	Ile	Ser	Cys	Thr	Gly	Thr	Ser	Ser	Asp	Val	Gly	Asp	Ile		
			20					25					30				

Asn	Asp	Val	Ser	Trp	Tyr	Gln	Gln	His	Pro	Gly	Lys	Ala	Pro	Lys	Leu		
		35					40					45					

Met	Ile	Tyr	Asp	Val	Asn	Asn	Arg	Pro	Ser	Gly	Val	Ser	Asn	Arg	Phe		
	50					55					60						

Ser	Gly	Ser	Lys	Ser	Gly	Asn	Thr	Ala	Ser	Leu	Thr	Ile	Ser	Gly	Leu		
65					70					75					80		

Gln	Ala	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Ser	Ser	Tyr	Gly	Glu	Ser		
				85					90					95			

Leu	Thr	Ser	Tyr	Val	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Thr	Val	Leu	Gly		
			100					105					110				

Gln

<210> 84
 <211> 113
 <212> PRT
 <213> Homo sapiens

<400> 84

Asp	Ile	Ala	Leu	Thr	Gln	Pro	Ala	Ser	Val	Ser	Gly	Ser	Pro	Gly	Gln		
1				5					10					15			

FIGURE 9 Continued...

Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Asp Ile
20 25 30

Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
35 40 45

Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val Ser Asn Arg Phe
50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Tyr Gly Glu Ser
85 90 95

Leu Thr Ser Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105 110

Gln

<210> 85
<211> 113
<212> PRT
<213> Homo sapiens

<400> 85

Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
1 5 10 15

Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Asp Ile
20 25 30

Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
35 40 45

Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val Ser Asn Arg Phe
50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Tyr Gly Glu Ser
85 90 95

Leu Thr Ser Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105 110

FIGURE 9 Continued...

Gln

<210> 86
 <211> 113
 <212> PRT
 <213> Homo sapiens

<400> 86

Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
 1 5 10 15

Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Asp Ile
 20 25 30

Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
 35 40 45

Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val Ser Asn Arg Phe
 50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
 65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Thr Tyr Asp Gly Pro
 85 90 95

Gly Leu Ser Glu Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
 100 105 110

Gln

<210> 87
 <211> 113
 <212> PRT
 <213> Homo sapiens

<400> 87

Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
 1 5 10 15

Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Asp Ile
 20 25 30

Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu

FIGURE 9 Continued...

35	40	45
Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val Ser Asn Arg Phe		
50	55	60
Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu		
65	70	75 80
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Tyr Gly Glu Ser		
	85	90 95
Leu Thr Ser Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly		
	100	105 110
Gln		
<210> 88		
<211> 113		
<212> PRT		
<213> Homo sapiens		
<400> 88		
Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln		
1	5	10 15
Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Asp Ile		
	20	25 30
Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu		
	35	40 45
Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val Ser Asn Arg Phe		
50	55	60
Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu		
65	70	75 80
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Thr Tyr Asp Gly Pro		
	85	90 95
Gly Leu Ser Glu Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly		
	100	105 110
Gln		

FIGURE 9 Continued...

<210> 89
 <211> 372
 <212> DNA
 <213> Homo sapiens

<400> 89
 caggtgcaat tgggtgaaag cggcggcggc ctggtgcaac cgggcggcag cctgcgtctg 60
 agctgcgcgg cctccggatt taccttttct tcttatgtta tgaattgggt gcgccaagcc 120
 cctgggaagg gtctcgagtg ggtgagcttt atctctgggt attctagcaa tacctattat 180
 gcggatagcg tgaaaggccg ttttaccatt tcacgtgata attcgaaaa caccctgtat 240
 ctgcaaatga acagcctgcg tgcggaagat acggccgtgt attattgcgc gcgtactttt 300
 atgcatggtc atcttgggtg tggcttttct atggattttt ggggccaagg caccctggtg 360
 acggttagct ca 372

<210> 90
 <211> 351
 <212> DNA
 <213> Homo sapiens

<400> 90
 caggtgcaat tgggtgaaag cggcggcggc ctggtgcaac cgggcggcag cctgcgtctg 60
 agctgcgcgg cctccggatt taccttttct tctcattggc tttcttgggt gcgccaagcc 120
 cctgggaagg gtctcgagtg ggtgagcaat atcaattatg atggtagctc tacctattat 180
 gcggatagcg tgaaaggccg ttttaccatt tcacgtgata attcgaaaa caccctgtat 240
 ctgcaaatga acagcctgcg tgcggaagat acggccgtgt attattgcgc gcgtgatact 300
 tatcttcatt ttgattattg gggccaaggc accctggtga cggtagctc a 351

<210> 91
 <211> 372
 <212> DNA
 <213> Homo sapiens

<400> 91
 caggtgcaat tgggtgaaag cggcggcggc ctggtgcaac cgggcggcag cctgcgtctg 60
 agctgcgcgg cctccggatt taccttttct tcttatgtta tgaattgggt gcgccaagcc 120
 cctgggaagg gtctcgagtg ggtgagcttt atctctgggt attctagcaa tacctattat 180
 gcggatagcg tgaaaggccg ttttaccatt tcacgtgata attcgaaaa caccctgtat 240
 ctgcaaatga acagcctgcg tgcggaagat acggccgtgt attattgcgc gcgtactttt 300
 atgcatggtc atcttgggtg tggcttttct atggattttt ggggccaagg caccctggtg 360
 acggttagct ca 372

FIGURE 9 Continued...

<210> 92
 <211> 351
 <212> DNA
 <213> Homo sapiens

<400> 92
 caggtgcaat tgggtgaaag cggcggcggc ctggtgcaac cgggcggcag cctgcgtctg 60
 agctgcgcgg cctccggatt tacctttcgt tctcattggc tttcttgggt gcgccaagcc 120
 cctgggaagg gtctcgagtg ggtgagcaat atcaattatg atggtagctc tacctattat 180
 gcggatagcg tgaaaggccg ttttaccatt tcacgtgata attcgaaaaa caccctgtat 240
 ctgcaaatga acagcctgcg tgcggaagat acggccgtgt attattgcgc gcgtgatact 300
 tatcttcatt ttgattattg gggccaaggc accctggtga cggtagctc a 351

<210> 93
 <211> 348
 <212> DNA
 <213> Homo sapiens

<400> 93
 caggtgcaat tgggtgaaag cggcggcggc ctggtgcaac cgggcggcag cctgcgtctg 60
 agctgcgcgg cctccggatt tacctttcgt tctcattggc tttcttgggt gcgccaagcc 120
 cctgggaagg gtctcgagtg ggtgagcgtt actggtgttc atggtgatac ttattatgct 180
 gattctgtta agggtcgttt taccatttca cgtgataatt cgaaaaacac cctgtatctg 240
 caaatgaaca gcctgcgtgc ggaagatacg gccgtgtatt attgcgcgcg tgatacttat 300
 cttcattttg attattgggg ccaaggcacc ctggtgacgg ttagctca 348

<210> 94
 <211> 348
 <212> DNA
 <213> Homo sapiens

<400> 94
 caggtgcaat tgggtgaaag cggcggcggc ctggtgcaac cgggcggcag cctgcgtctg 60
 agctgcgcgg cctccggatt tacctttcgt tctcattggc tttcttgggt gcgccaagcc 120
 cctgggaagg gtctcgagtg ggtgagcgtt attggttaatt ggggtgatac ttattatgct 180
 gattctgtta agggtcgttt taccatttca cgtgataatt cgaaaaacac cctgtatctg 240
 caaatgaaca gcctgcgtgc ggaagatacg gccgtgtatt attgcgcgcg tgatacttat 300
 cttcattttg attattgggg ccaaggcacc ctggtgacgg ttagctca 348

<210> 95
 <211> 348
 <212> DNA

FIGURE 9 Continued...

<213> Homo sapiens

<400> 95

```

caggtgcaat tgggtgaaag cggcggcggc ctggtgcaac cgggcggcag cctgcgtctg      60
agctgcgcgg cctccggatt tacctttcgt tctcattggc tttcttgggt gcgccaagcc      120
cctgggaagg gtctcgagtg ggtgagcgtt actactcatc agggttatac ttattatgct      180
gattctgtta agggtcgttt taccatttca cgtgataatt cgaaaaacac cctgtatctg      240
caaatgaaca gcctgcgtgc ggaagatacg gccgtgtatt attgcgcgcg tgataacttat      300
cttcattttg attattgggg ccaaggcacc ctggtgacgg ttagctca                    348

```

<210> 96

<211> 348

<212> DNA

<213> Homo sapiens

<400> 96

```

caggtgcaat tgggtgaaag cggcggcggc ctggtgcaac cgggcggcag cctgcgtctg      60
agctgcgcgg cctccggatt tacctttcgt tctcattggc tttcttgggt gcgccaagcc      120
cctgggaagg gtctcgagtg ggtgagcgtt actaatcgtt atggttatac ttattatgct      180
gattctgtta agggtcgttt taccatttca cgtgataatt cgaaaaacac cctgtatctg      240
caaatgaaca gcctgcgtgc ggaagatacg gccgtgtatt attgcgcgcg tgataacttat      300
cttcattttg attattgggg ccaaggcacc ctggtgacgg ttagctca                    348

```

<210> 97

<211> 351

<212> DNA

<213> Homo sapiens

<400> 97

```

caggtgcaat tgggtgaaag cggcggcggc ctggtgcaac cgggcggcag cctgcgtctg      60
agctgcgcgg cctccggatt tacctttcgt tctcattggc tttcttgggt gcgccaagcc      120
cctgggaagg gtctcgagtg ggtgagcaat atcaattatg atggtagctc tacctattat      180
gcggatagcg tgaaaggccg ttttaccatt tcacgtgata attcgaaaaa caccctgtat      240
ctgcaaatga acagcctgcg tcggaagat acggccgtgt attattgcgc gcgtgatact      300
tatcttcatt ttgattattg gggccaaggc accctggtga cggttagctc a                    351

```

<210> 98

<211> 348

<212> DNA

<213> Homo sapiens

<400> 98

```

caggtgcaat tgggtgaaag cggcggcggc ctggtgcaac cgggcggcag cctgcgtctg      60

```

FIGURE 9 Continued...

```

agctgcgcgg cctccggatt tacctttcgt tctcattggc tttcttgggt gcgccaagcc 120
cctgggaagg gtctcgagtg ggtgagcggt attactcctt atggtgatac ttattatgct 180
gattctgtta agggtcgttt taccatttca cgtgataaatt cgaaaaacac cctgtatctg 240
caaatgaaca gcctgcgtgc ggaagatacg gccgtgtatt attgcgcgcg tgataacttat 300
cttcattttg attattgggg ccaaggcacc ctggtgacgg ttagctca 348

```

```

<210> 99
<211> 348
<212> DNA
<213> Homo sapiens

```

```

<400> 99
caggtgcaat tgggtgaaag cggcggcggc ctggtgcaac cgggcggcag cctgcgtctg 60
agctgcgcgg cctccggatt tacctttcgt tctcattggc tttcttgggt gcgccaagcc 120
cctgggaagg gtctcgagtg ggtgagcggt attactcctt atggtgatac ttattatgct 180
gattctgtta agggtcgttt taccatttca cgtgataaatt cgaaaaacac cctgtatctg 240
caaatgaaca gcctgcgtgc ggaagatacg gccgtgtatt attgcgcgcg tgataacttat 300
cttcattttg attattgggg ccaaggcacc ctggtgacgg ttagctca 348

```

```

<210> 100
<211> 330
<212> DNA
<213> Homo sapiens

```

```

<400> 100
gatatcgaaac tgaccagacc gccttcagtg agcgttgcaac caggtcagac cgcgcgtatc 60
tcgtgtagcg gcgataatat tggttctttt tatgttcatt ggtaccagca gaaaccggg 120
caggcgccag ttcttgtgat ttatgatgat aataatcgtc cctcaggcat cccggaacgc 180
tttagcggat ccaacagcgg caacaccgcg accctgacca ttagcggcac tcaggcggaa 240
gacgaagcgg attattattg cggttcttgg gctggttctt ctggttctta tgtgtttggc 300
ggccgcacga agttaaccgt tcttggccag 330

```

```

<210> 101
<211> 339
<212> DNA
<213> Homo sapiens

```

```

<400> 101
gatatcgcaac tgaccagacc agcttcagtg agcggctcac caggtcagag cattaccatc 60
tcgtgtacgg gtactagcag cgatgttggg gatattaatg atgtgtcttg gtaccagcag 120
catcccggga aggcgccgaa acttatgatt tatgatgtta ataatcgtcc ctcaggcgtg 180

```

FIGURE 9 Continued...

agcaaccgtt ttagcggatc caaaagcggc aacaccgga gctgaccat tagcggcctg 240
 caagcgggaag acgaagcggga ttattattgc tcttcttatg gtgagtctct tacttcttat 300
 gtgtttggcg gcggcacgaa gttaaccgtt cttggccag 339

<210> 102
 <211> 330
 <212> DNA
 <213> Homo sapiens

<400> 102
 gatatcgaaac tgaccagacc gccttcagtg agcgttcac caggtcagac cgcgcgtatc 60
 tcgtgtagcg gcgataatat tgggtctttt tatgttcatt ggtaccagca gaaaccggg 120
 caggcgccag ttcttgatgat ttatgatgat aataatcgtc cctcaggcat cccggaacgc 180
 tttagcggat ccaacagcgg caacaccgcg accctgacca ttagcggcac tcaggcggaa 240
 gacgaagcgg attattattg cgcttcttgg actggtgttg agcctgatta tgtgtttggc 300
 ggcggcacga agttaaccgt tcttggccag 330

<210> 103
 <211> 339
 <212> DNA
 <213> Homo sapiens

<400> 103
 gatatcgac tgaccagacc agcttcagtg agcggctcac caggtcagag cattaccatc 60
 tcgtgtacgg gtactagcag cgatgttggg gatattaatg atgtgtcttg gtaccagcag 120
 catcccgga aggcgcgaa acttatgatt tatgatgtta ataatcgtc ctcaggcgtg 180
 agcaaccgtt ttagcggatc caaaagcggc aacaccgga gctgaccat tagcggcctg 240
 caagcgggaag acgaagcggga ttattattgc cagtcttatg ctggttctta tcttcttgag 300
 gtgtttggcg gcggcacgaa gttaaccgtt cttggccag 339

<210> 104
 <211> 339
 <212> DNA
 <213> Homo sapiens

<400> 104
 gatatcgac tgaccagacc agcttcagtg agcggctcac caggtcagag cattaccatc 60
 tcgtgtacgg gtactagcag cgatgttggg gatattaatg atgtgtcttg gtaccagcag 120
 catcccgga aggcgcgaa acttatgatt tatgatgtta ataatcgtc ctcaggcgtg 180
 agcaaccgtt ttagcggatc caaaagcggc aacaccgga gctgaccat tagcggcctg 240
 caagcgggaag acgaagcggga ttattattgc tcttcttatg gtgagtctct tacttcttat 300

FIGURE 9 Continued...

gtgtttggcg gcggcacgaa gttaaccggt cttggccag 339

<210> 105
 <211> 339
 <212> DNA
 <213> Homo sapiens

<400> 105
 gatatcgcac tgaccagcc agcttcagtg agcggctcac caggtcagag cattaccatc 60
 tcgtgtacgg gtactagcag cgatgttggg gatattaatg atgtgtcttg gtaccagcag 120
 catcccggga aggcgccgaa acttatgatt tatgatgtta ataatcgtcc ctcaggcgtg 180
 agcaaccgtt ttagcggatc caaaagcggc aacaccgga gcctgaccat tagcggcctg 240
 caagcggaag acgaagcgga ttattattgc tcttcttatg gtgagtctct tacttcttat 300
 gtgtttggcg gcggcacgaa gttaaccggt cttggccag 339

<210> 106
 <211> 339
 <212> DNA
 <213> Homo sapiens

<400> 106
 gatatcgcac tgaccagcc agcttcagtg agcggctcac caggtcagag cattaccatc 60
 tcgtgtacgg gtactagcag cgatgttggg gatattaatg atgtgtcttg gtaccagcag 120
 catcccggga aggcgccgaa acttatgatt tatgatgtta ataatcgtcc ctcaggcgtg 180
 agcaaccgtt ttagcggatc caaaagcggc aacaccgga gcctgaccat tagcggcctg 240
 caagcggaag acgaagcgga ttattattgc tcttcttatg gtgagtctct tacttcttat 300
 gtgtttggcg gcggcacgaa gttaaccggt cttggccag 339

<210> 107
 <211> 339
 <212> DNA
 <213> Homo sapiens

<400> 107
 gatatcgcac tgaccagcc agcttcagtg agcggctcac caggtcagag cattaccatc 60
 tcgtgtacgg gtactagcag cgatgttggg gatattaatg atgtgtcttg gtaccagcag 120
 catcccggga aggcgccgaa acttatgatt tatgatgtta ataatcgtcc ctcaggcgtg 180
 agcaaccgtt ttagcggatc caaaagcggc aacaccgga gcctgaccat tagcggcctg 240
 caagcggaag acgaagcgga ttattattgc tcttcttatg gtgagtctct tacttcttat 300
 gtgtttggcg gcggcacgaa gttaaccggt cttggccag 339

FIGURE 9 Continued...

<210> 108
<211> 339
<212> DNA
<213> Homo sapiens

<400> 108
gatatcgcac tgaccagcc agcttcagtg agcggctcac caggtcagag cattaccatc 60
tcgtgtacgg gtactagcag cgatgttggg gatattaatg atgtgtcttg gtaccagcag 120
catcccgga aggcgcgaa acttatgatt tatgatgtta ataatcgtcc ctcaggcgtg 180
agcaaccgtt ttagcggatc caaaagcggc aacaccgcga gcctgaccat tagcggcctg 240
caagcggaag acgaagcgga ttattattgc tctacttatg atggctctgg tctttctgag 300
gtgtttggcg gcggcacgaa gttaaccgtt cttggccag 339

<210> 109
<211> 339
<212> DNA
<213> Homo sapiens

<400> 109
gatatcgcac tgaccagcc agcttcagtg agcggctcac caggtcagag cattaccatc 60
tcgtgtacgg gtactagcag cgatgttggg gatattaatg atgtgtcttg gtaccagcag 120
catcccgga aggcgcgaa acttatgatt tatgatgtta ataatcgtcc ctcaggcgtg 180
agcaaccgtt ttagcggatc caaaagcggc aacaccgcga gcctgaccat tagcggcctg 240
caagcggaag acgaagcgga ttattattgc tcttcttatg gtgagtctct tacttcttat 300
gtgtttggcg gcggcacgaa gttaaccgtt cttggccag 339

<210> 110
<211> 339
<212> DNA
<213> Homo sapiens

<400> 110
gatatcgcac tgaccagcc agcttcagtg agcggctcac caggtcagag cattaccatc 60
tcgtgtacgg gtactagcag cgatgttggg gatattaatg atgtgtcttg gtaccagcag 120
catcccgga aggcgcgaa acttatgatt tatgatgtta ataatcgtcc ctcaggcgtg 180
agcaaccgtt ttagcggatc caaaagcggc aacaccgcga gcctgaccat tagcggcctg 240
caagcggaag acgaagcgga ttattattgc tctacttatg atggctctgg tctttctgag 300
gtgtttggcg gcggcacgaa gttaaccgtt cttggccag 339

<210> 111
<211> 469
<212> PRT
<213> Homo sapiens

FIGURE 9 Continued...

<400> 111

Met Ala Trp Val Trp Thr Leu Pro Phe Leu Met Ala Ala Ala Gln Ser
1 5 10 15

Val Gln Ala Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
20 25 30

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
35 40 45

Ser Ser Tyr Val Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
50 55 60

Glu Trp Val Ser Phe Ile Ser Gly Asp Ser Ser Asn Thr Tyr Tyr Ala
65 70 75 80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
85 90 95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
100 105 110

Tyr Tyr Cys Ala Arg Thr Phe Met His Gly His Leu Gly Gly Gly Leu
115 120 125

Ser Met Asp Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
130 135 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser
145 150 155 160

Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
165 170 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
180 185 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
195 200 205

Ser Ser Val Val Thr Val Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr
210 215 220

Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr
225 230 235 240

FIGURE 9 Continued...

Val Glu Arg Lys Cys Cys Val Glu Cys Pro Pro Cys Pro Ala Pro Pro
 245 250 255

Val Ala Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 260 265 270

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 275 280 285

Ser His Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
 290 295 300

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
 305 310 315 320

Thr Phe Arg Val Val Ser Val Leu Thr Val Val His Gln Asp Trp Leu
 325 330 335

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ala
 340 345 350

Pro Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro
 355 360 365

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln
 370 375 380

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
 385 390 395 400

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
 405 410 415

Pro Pro Met Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
 420 425 430

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
 435 440 445

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
 450 455 460

Leu Ser Pro Gly Lys
 465

FIGURE 9 Continued...

<210> 112
 <211> 462
 <212> PRT
 <213> Homo sapiens

<400> 112

Met Ala Trp Val Trp Thr Leu Pro Phe Leu Met Ala Ala Ala Gln Ser
 1 5 10 15

Val Gln Ala Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45

Arg Ser His Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60

Glu Trp Val Ser Asn Ile Asn Tyr Asp Gly Ser Ser Thr Tyr Tyr Ala
 65 70 75 80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
 85 90 95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
 100 105 110

Tyr Tyr Cys Ala Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln
 115 120 125

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
 130 135 140

Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala
 145 150 155 160

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 165 170 175

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 180 185 190

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
 195 200 205

Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His Lys

FIGURE 9 Continued...

210	215	220
Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys Val		
225	230	235 240
Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe		
	245	250 255
Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro		
	260	265 270
Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val		
	275	280 285
Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr		
	290	295 300
Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val		
	305	310 315 320
Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys		
	325	330 335
Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser		
	340	345 350
Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro		
	355	360 365
Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val		
	370	375 380
Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly		
	385	390 395 400
Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp		
	405	410 415
Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp		
	420	425 430
Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His		
	435	440 445
Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys		
	450	455 460

FIGURE 9 Continued...

<210> 113
 <211> 469
 <212> PRT
 <213> Homo sapiens

<400> 113

Met Ala Trp Val Trp Thr Leu Pro Phe Leu Met Ala Ala Ala Gln Ser
 1 5 10 15

Val Gln Ala Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45

Ser Ser Tyr Val Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60

Glu Trp Val Ser Phe Ile Ser Gly Asp Ser Ser Asn Thr Tyr Tyr Ala
 65 70 75 80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
 85 90 95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
 100 105 110

Tyr Tyr Cys Ala Arg Thr Phe Met His Gly His Leu Gly Gly Gly Leu
 115 120 125

Ser Met Asp Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
 130 135 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser
 145 150 155 160

Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
 165 170 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
 180 185 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
 195 200 205

FIGURE 9 Continued...

Ser	Ser	Val	Val	Thr	Val	Pro	Ser	Ser	Asn	Phe	Gly	Thr	Gln	Thr	Tyr
210						215					220				
Thr	Cys	Asn	Val	Asp	His	Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Thr
225					230					235					240
Val	Glu	Arg	Lys	Cys	Cys	Val	Glu	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Pro
				245					250					255	
Val	Ala	Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr
			260					265						270	
Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val
	275						280					285			
Ser	His	Glu	Asp	Pro	Glu	Val	Gln	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val
290						295					300				
Glu	Val	His	Asn	Ala	Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Phe	Asn	Ser
305					310					315					320
Thr	Phe	Arg	Val	Val	Ser	Val	Leu	Thr	Val	Val	His	Gln	Asp	Trp	Leu
				325					330					335	
Asn	Gly	Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	Gly	Leu	Pro	Ala
			340					345					350		
Pro	Ile	Glu	Lys	Thr	Ile	Ser	Lys	Thr	Lys	Gly	Gln	Pro	Arg	Glu	Pro
		355					360					365			
Gln	Val	Tyr	Thr	Leu	Pro	Pro	Ser	Arg	Glu	Glu	Met	Thr	Lys	Asn	Gln
	370					375					380				
Val	Ser	Leu	Thr	Cys	Leu	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala
385					390					395					400
Val	Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr
				405					410					415	
Pro	Pro	Met	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu
			420					425					430		
Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser
		435					440					445			
Val	Met	His	Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser

FIGURE 9 Continued...

450 455 460
 Leu Ser Pro Gly Lys
 465
 <210> 114
 <211> 462
 <212> PRT
 <213> Homo sapiens
 <400> 114
 Met Ala Trp Val Trp Thr Leu Pro Phe Leu Met Ala Ala Ala Gln Ser
 1 5 10 15
 Val Gln Ala Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30
 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45
 Arg Ser His Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60
 Glu Trp Val Ser Asn Ile Asn Tyr Asp Gly Ser Ser Thr Tyr Tyr Ala
 65 70 75 80
 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
 85 90 95
 Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
 100 105 110
 Tyr Tyr Cys Ala Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln
 115 120 125
 Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
 130 135 140
 Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala
 145 150 155 160
 Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 165 170 175
 Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 180 185 190

FIGURE 9 Continued...

Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro	195	200	205	
Ser	Ser	Asn	Phe	Gly	Thr	Gln	Thr	Tyr	Thr	Cys	Asn	Val	Asp	His	Lys	210	215	220	
Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Thr	Val	Glu	Arg	Lys	Cys	Cys	Val	225	230	235	240
Glu	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Pro	Val	Ala	Gly	Pro	Ser	Val	Phe	245	250	255	
Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	260	265	270	
Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	275	280	285	
Gln	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	290	295	300	
Lys	Pro	Arg	Glu	Glu	Gln	Phe	Asn	Ser	Thr	Phe	Arg	Val	Val	Ser	Val	305	310	315	320
Leu	Thr	Val	Val	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys	325	330	335	
Lys	Val	Ser	Asn	Lys	Gly	Leu	Pro	Ala	Pro	Ile	Glu	Lys	Thr	Ile	Ser	340	345	350	
Lys	Thr	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu	Pro	Pro	355	360	365	
Ser	Arg	Glu	Glu	Met	Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu	Val	370	375	380	
Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn	Gly	385	390	395	400
Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Met	Leu	Asp	Ser	Asp	405	410	415	
Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	420	425	430	

FIGURE 9 Continued...

Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His
 435 440 445

Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 450 455 460

<210> 115
 <211> 461
 <212> PRT
 <213> Homo sapiens

<400> 115

Met Ala Trp Val Trp Thr Leu Pro Phe Leu Met Ala Ala Ala Gln Ser
 1 5 10 15

Val Gln Ala Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45

Arg Ser His Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60

Glu Trp Val Ser Val Thr Gly Val His Gly Asp Thr Tyr Tyr Ala Asp
 65 70 75 80

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
 85 90 95

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
 100 105 110

Tyr Cys Ala Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly
 115 120 125

Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe
 130 135 140

Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu
 145 150 155 160

Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp
 165 170 175

Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu
 180 185 190

FIGURE 9 Continued...

Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser
 195 200 205

Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His Lys Pro
 210 215 220

Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys Val Glu
 225 230 235 240

Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe Leu
 245 250 255

Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
 260 265 270

Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Gln
 275 280 285

Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys
 290 295 300

Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val Leu
 305 310 315 320

Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys
 325 330 335

Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys
 340 345 350

Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
 355 360 365

Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
 370 375 380

Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln
 385 390 395 400

Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp Gly
 405 410 415

Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln
 420 425 430

FIGURE 9 Continued...

Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
 435 440 445

His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 450 455 460

<210> 116
 <211> 461
 <212> PRT
 <213> Homo sapiens

<400> 116

Met Ala Trp Val Trp Thr Leu Pro Phe Leu Met Ala Ala Ala Gln Ser
 1 5 10 15

Val Gln Ala Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45

Arg Ser His Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60

Glu Trp Val Ser Val Ile Gly Asn Trp Gly Asp Thr Tyr Tyr Ala Asp
 65 70 75 80

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
 85 90 95

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
 100 105 110

Tyr Cys Ala Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly
 115 120 125

Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe
 130 135 140

Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu
 145 150 155 160

Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp
 165 170 175

Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu

FIGURE 9 Continued...[illegible]

FIGURE 9 Continued...

Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
 435 440 445

His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 450 455 460

<210> 117
 <211> 461
 <212> PRT
 <213> Homo sapiens

<400> 117

Met Ala Trp Val Trp Thr Leu Pro Phe Leu Met Ala Ala Ala Gln Ser
 1 5 10 15

Val Gln Ala Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45

Arg Ser His Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60

Glu Trp Val Ser Val Thr Thr His Gln Gly Tyr Thr Tyr Tyr Ala Asp
 65 70 75 80

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
 85 90 95

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
 100 105 110

Tyr Cys Ala Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly
 115 120 125

Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe
 130 135 140

Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu
 145 150 155 160

Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp
 165 170 175

FIGURE 9 Continued...

Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu
 180 185 190

Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser
 195 200 205

Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His Lys Pro
 210 215 220

Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys Val Glu
 225 230 235 240

Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe Leu
 245 250 255

Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
 260 265 270

Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Gln
 275 280 285

Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys
 290 295 300

Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val Leu
 305 310 315 320

Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys
 325 330 335

Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys
 340 345 350

Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
 355 360 365

Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
 370 375 380

Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln
 385 390 395 400

Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp Gly
 405 410 415

Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln

FIGURE 9 Continued...

420 425 430
 Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
 435 440 445

 His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 450 455 460

 <210> 118
 <211> 465
 <212> PRT
 <213> Homo sapiens

 <400> 118

 Met Lys His Leu Trp Phe Phe Leu Leu Leu Val Ala Ala Pro Arg Trp
 1 5 10 15

 Val Leu Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30

 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45

 Arg Ser His Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60

 Glu Trp Val Ser Ala Thr Asn Arg Tyr Gly Tyr Thr Tyr Tyr Ala Asp
 65 70 75 80

 Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
 85 90 95

 Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
 100 105 110

 Tyr Cys Ala Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly
 115 120 125

 Thr Leu Val Thr Val Ser Ser Ala Lys Thr Thr Ala Pro Ser Val Tyr
 130 135 140

 Pro Leu Ala Pro Val Cys Gly Asp Thr Thr Gly Ser Ser Val Thr Leu
 145 150 155 160

 Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val Thr Leu Thr Trp
 165 170 175

FIGURE 9 Continued...

Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr Phe Pro Ala Val Leu
 180 185 190

Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val Thr Val Thr Ser Ser
 195 200 205

Thr Trp Pro Ser Gln Ser Ile Thr Cys Asn Val Ala His Pro Ala Ser
 210 215 220

Ser Thr Lys Val Asp Lys Lys Ile Glu Pro Arg Gly Pro Thr Ile Lys
 225 230 235 240

Pro Cys Pro Pro Cys Lys Cys Pro Ala Pro Asn Leu Leu Gly Gly Pro
 245 250 255

Ser Val Phe Ile Phe Pro Pro Lys Ile Lys Asp Val Leu Met Ile Ser
 260 265 270

Leu Ser Pro Ile Val Thr Cys Val Val Val Asp Val Ser Glu Asp Asp
 275 280 285

Pro Asp Val Gln Ile Ser Trp Phe Val Asn Asn Val Glu Val His Thr
 290 295 300

Ala Gln Thr Gln Thr His Arg Glu Asp Tyr Asn Ser Thr Leu Arg Val
 305 310 315 320

Val Ser Ala Leu Pro Ile Gln His Gln Asp Trp Met Ser Gly Lys Glu
 325 330 335

Phe Lys Cys Lys Val Asn Asn Lys Asp Leu Pro Ala Pro Ile Glu Arg
 340 345 350

Thr Ile Ser Lys Pro Lys Gly Ser Val Arg Ala Pro Gln Val Tyr Val
 355 360 365

Leu Pro Pro Pro Glu Glu Glu Met Thr Lys Lys Gln Val Thr Leu Thr
 370 375 380

Cys Met Val Thr Asp Phe Met Pro Glu Asp Ile Tyr Val Glu Trp Thr
 385 390 395 400

Asn Asn Gly Lys Thr Glu Leu Asn Tyr Lys Asn Thr Glu Pro Val Leu
 405 410 415

FIGURE 9 Continued...

Asp Ser Asp Gly Ser Tyr Phe Met Tyr Ser Lys Leu Arg Val Glu Lys
 420 425 430

Lys Asn Trp Val Glu Arg Asn Ser Tyr Ser Cys Ser Val Val His Glu
 435 440 445

Gly Leu His Asn His His Thr Thr Lys Ser Phe Ser Arg Thr Pro Gly
 450 455 460

Lys
 465

<210> 119
 <211> 462
 <212> PRT
 <213> Homo sapiens

<400> 119

Met Ala Trp Val Trp Thr Leu Pro Phe Leu Met Ala Ala Ala Gln Ser
 1 5 10 15

Val Gln Ala Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45

Arg Ser His Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60

Glu Trp Val Ser Asn Ile Asn Tyr Asp Gly Ser Ser Thr Tyr Tyr Ala
 65 70 75 80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
 85 90 95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
 100 105 110

Tyr Tyr Cys Ala Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln
 115 120 125

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
 130 135 140

Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala
 145 150 155 160

FIGURE 9 Continued...

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 165 170 175

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 180 185 190

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
 195 200 205

Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His Lys
 210 215 220

Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys Val
 225 230 235 240

Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe
 245 250 255

Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro
 260 265 270

Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val
 275 280 285

Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr
 290 295 300

Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val
 305 310 315 320

Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys
 325 330 335

Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser
 340 345 350

Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro
 355 360 365

Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val
 370 375 380

Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly
 385 390 395 400

FIGURE 9 Continued...

Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp
 405 410 415

Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp
 420 425 430

Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His
 435 440 445

Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 450 455 460

<210> 120
 <211> 461
 <212> PRT
 <213> Homo sapiens

<400> 120

Met Ala Trp Val Trp Thr Leu Pro Phe Leu Met Ala Ala Ala Gln Ser
 1 5 10 15

Val Gln Ala Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45

Arg Ser His Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60

Glu Trp Val Ser Val Ile Thr Pro Tyr Gly Asp Thr Tyr Tyr Ala Asp
 65 70 75 80

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
 85 90 95

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
 100 105 110

Tyr Cys Ala Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly
 115 120 125

Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe
 130 135 140

Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu

FIGURE 9 Continued...

145		150		155		160
Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp						
		165		170		175
Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu						
		180		185		190
Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser						
		195		200		205
Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His Lys Pro						
		210		215		220
Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys Val Glu						
		225		230		240
Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe Leu						
		245		250		255
Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu						
		260		265		270
Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Gln						
		275		280		285
Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys						
		290		295		300
Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val Leu						
		305		310		320
Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys						
		325		330		335
Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys						
		340		345		350
Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser						
		355		360		365
Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys						
		370		375		380
Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln						
		385		390		400

Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Met	Leu	Asp	Asp	Gly	
				405					410					415	
Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln
			420					425					430		
Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala	Leu	His	Asn
		435					440					445			
His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser	Leu	Ser	Pro	Gly	Lys			
	450					455						460			
<210> 121															
<211> 461															
<212> PRT															
<213> Homo sapiens															
<400> 121															
Met	Ala	Trp	Val	Trp	Thr	Leu	Pro	Phe	Leu	Met	Ala	Ala	Ala	Gln	Ser
1				5					10					15	
Val	Gln	Ala	Gln	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln
			20					25					30		
Pro	Gly	Gly	Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe
		35					40					45			
Arg	Ser	His	Trp	Leu	Ser	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu
	50					55					60				
Glu	Trp	Val	Ser	Val	Ile	Thr	Pro	Tyr	Gly	Asp	Thr	Tyr	Tyr	Ala	Asp
65					70					75					80
Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	Thr
				85					90					95	
Leu	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr
			100					105					110		
Tyr	Cys	Ala	Arg	Asp	Thr	Tyr	Leu	His	Phe	Asp	Tyr	Trp	Gly	Gln	Gly
		115					120					125			
Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val	Phe
	130					135					140				

FIGURE 9 Continued...

Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu
145 150 155 160

Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp
165 170 175

Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu
180 185 190

Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser
195 200 205

Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His Lys Pro
210 215 220

Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys Val Glu
225 230 235 240

Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe Leu
245 250 255

Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
260 265 270

Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Gln
275 280 285

Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys
290 295 300

Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val Leu
305 310 315 320

Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys
325 330 335

Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys
340 345 350

Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
355 360 365

Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
370 375 380

Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln

[illegible]

FIGURE 9 Continued...

<210> 123
 <211> 237
 <212> PRT
 <213> Homo sapiens

 <400> 123

 Met Ser Val Leu Thr Gln Val Leu Ala Leu Leu Leu Leu Trp Leu Thr
 1 5 10 15

 Gly Thr Arg Cys Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly
 20 25 30

 Ser Pro Gly Gln Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp
 35 40 45

 Val Gly Asp Ile Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys
 50 55 60

 Ala Pro Lys Leu Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val
 65 70 75 80

 Ser Asn Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr
 85 90 95

 Ile Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser
 100 105 110

 Tyr Gly Glu Ser Leu Thr Ser Tyr Val Phe Gly Gly Gly Thr Lys Leu
 115 120 125

 Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro
 130 135 140

 Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu
 145 150 155 160

 Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp
 165 170 175

 Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln
 180 185 190

 Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu
 195 200 205

 Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly

FIGURE 9 Continued...

210 215 220
 Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
 225 230 235

 <210> 124
 <211> 234
 <212> PRT
 <213> Homo sapiens

 <400> 124
 Met Ser Val Leu Thr Gln Val Leu Ala Leu Leu Leu Leu Trp Leu Thr
 1 5 10 15

 Gly Thr Arg Cys Asp Ile Glu Leu Thr Gln Pro Pro Ser Val Ser Val
 20 25 30

 Ala Pro Gly Gln Thr Ala Arg Ile Ser Cys Ser Gly Asp Asn Ile Gly
 35 40 45

 Ser Phe Tyr Val His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val
 50 55 60

 Leu Val Ile Tyr Asp Asp Asn Asn Arg Pro Ser Gly Ile Pro Glu Arg
 65 70 75 80

 Phe Ser Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly
 85 90 95

 Thr Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Trp Thr Gly
 100 105 110

 Val Glu Pro Asp Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
 115 120 125

 Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
 130 135 140

 Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
 145 150 155 160

 Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
 165 170 175

 Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
 180 185 190

FIGURE 9 Continued...

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
 195 200 205

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
 210 215 220

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
 225 230

<210> 125
 <211> 237
 <212> PRT
 <213> Homo sapiens

<400> 125

Met Ser Val Leu Thr Gln Val Leu Ala Leu Leu Leu Trp Leu Thr
 1 5 10 15

Gly Thr Arg Cys Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly
 20 25 30

Ser Pro Gly Gln Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp
 35 40 45

Val Gly Asp Ile Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys
 50 55 60

Ala Pro Lys Leu Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val
 65 70 75 80

Ser Asn Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr
 85 90 95

Ile Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
 100 105 110

Tyr Ala Gly Ser Tyr Leu Ser Glu Val Phe Gly Gly Gly Thr Lys Leu
 115 120 125

Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro
 130 135 140

Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu
 145 150 155 160

Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp

FIGURE 9 Continued...

165	170	175
Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln		
180	185	190
Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu		
195	200	205
Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly		
210	215	220
Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser		
225	230	235
<210> 126		
<211> 237		
<212> PRT		
<213> Homo sapiens		
<400> 126		
Met Ser Val Leu Thr Gln Val Leu Ala Leu Leu Leu Leu Trp Leu Thr		
1	5	10
Gly Thr Arg Cys Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly		
20	25	30
Ser Pro Gly Gln Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp		
35	40	45
Val Gly Asp Ile Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys		
50	55	60
Ala Pro Lys Leu Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val		
65	70	75
Ser Asn Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr		
85	90	95
Ile Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser		
100	105	110
Tyr Gly Glu Ser Leu Thr Ser Tyr Val Phe Gly Gly Gly Thr Lys Leu		
115	120	125
Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro		
130	135	140

FIGURE 9 Continued...

Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu
145 150 155 160

Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp
165 170 175

Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln
180 185 190

Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu
195 200 205

Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly
210 215 220

Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
225 230 235

<210> 127
<211> 237
<212> PRT
<213> Homo sapiens

<400> 127

Met Ser Val Leu Thr Gln Val Leu Ala Leu Leu Leu Leu Trp Leu Thr
1 5 10 15

Gly Thr Arg Cys Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly
20 25 30

Ser Pro Gly Gln Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp
35 40 45

Val Gly Asp Ile Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys
50 55 60

Ala Pro Lys Leu Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val
65 70 75 80

Ser Asn Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr
85 90 95

Ile Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser
100 105 110

Tyr Gly Glu Ser Leu Thr Ser Tyr Val Phe Gly Gly Gly Thr Lys Leu

FIGURE 9 Continued...

115	120	125
Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro		
130	135	140
Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu		
145	150	155
Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp		
	165	170
		175
Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln		
	180	185
		190
Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu		
	195	200
		205
Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly		
	210	215
		220
Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser		
225	230	235
<210> 128		
<211> 237		
<212> PRT		
<213> Homo sapiens		
<400> 128		
Met Ser Val Leu Thr Gln Val Leu Ala Leu Leu Leu Leu Trp Leu Thr		
1	5	10
		15
Gly Thr Arg Cys Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly		
	20	25
		30
Ser Pro Gly Gln Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp		
	35	40
		45
Val Gly Asp Ile Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys		
	50	55
		60
Ala Pro Lys Leu Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val		
65	70	75
		80
Ser Asn Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr		
	85	90
		95

FIGURE 9 Continued...

Ile Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser
 100 105 110

Tyr Gly Glu Ser Leu Thr Ser Tyr Val Phe Gly Gly Gly Thr Lys Leu
 115 120 125

Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro
 130 135 140

Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu
 145 150 155 160

Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp
 165 170 175

Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln
 180 185 190

Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu
 195 200 205

Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly
 210 215 220

Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
 225 230 235

<210> 129

<211> 237

<212> PRT

<213> Homo sapiens

<400> 129

Met Ser Val Leu Thr Gln Val Leu Ala Leu Leu Leu Trp Leu Thr
 1 5 10 15

Gly Thr Arg Cys Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly
 20 25 30

Ser Pro Gly Gln Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp
 35 40 45

Val Gly Asp Ile Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys
 50 55 60

Ala Pro Lys Leu Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val

FIGURE 9 Continued...

65		70		75		80
Ser Asn Arg Phe	Ser Gly	Ser Lys	Ser Gly	Asn Thr	Ala Ser	Leu Thr
	85		90			95
Ile Ser Gly Leu	Gln Ala	Glu Asp	Glu Ala	Asp Tyr	Tyr Cys	Ser Ser
	100		105		110	
Tyr Gly Glu Ser	Leu Thr	Ser Tyr	Val Phe	Gly Gly	Gly Thr	Lys Leu
	115		120		125	
Thr Val Leu Gly	Gln Pro	Lys Ala	Ala Pro	Ser Val	Thr Leu	Phe Pro
	130		135		140	
Pro Ser Ser Glu	Glu Leu	Gln Ala	Asn Lys	Ala Thr	Leu Val	Cys Leu
145		150		155		160
Ile Ser Asp Phe	Tyr Pro	Gly Ala	Val Thr	Val Ala	Trp Lys	Ala Asp
	165		170			175
Ser Ser Pro Val	Lys Ala	Gly Val	Glu Thr	Thr Thr	Pro Ser	Lys Gln
	180		185		190	
Ser Asn Asn Lys	Tyr Ala	Ala Ser	Ser Tyr	Leu Ser	Leu Thr	Pro Glu
	195		200		205	
Gln Trp Lys Ser	His Arg	Ser Tyr	Ser Cys	Gln Val	Thr His	Glu Gly
	210		215		220	
Ser Thr Val Glu	Lys Thr	Val Ala	Pro Thr	Glu Cys	Ser	
225		230		235		
<210>	130					
<211>	237					
<212>	PRT					
<213>	Homo sapiens					
<400>	130					
Met Ser Val Leu	Thr Gln	Val Leu	Ala Leu	Leu Leu	Leu Trp	Leu Thr
1		5		10		15
Gly Thr Arg Cys	Asp Ile	Ala Leu	Thr Gln	Pro Ala	Ser Val	Ser Gly
	20		25		30	
Ser Pro Gly Gln	Ser Ile	Thr Ile	Ser Cys	Thr Gly	Thr Ser	Ser Asp
	35		40		45	

FIGURE 9 Continued...

Val Gly Asp Ile Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys
50 55 60

Ala Pro Lys Leu Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val
65 70 75 80

Ser Asn Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr
85 90 95

Ile Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Thr
100 105 110

Tyr Asp Gly Pro Gly Leu Ser Glu Val Phe Gly Gly Gly Thr Lys Leu
115 120 125

Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro
130 135 140

Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu
145 150 155 160

Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp
165 170 175

Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln
180 185 190

Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu
195 200 205

Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly
210 215 220

Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
225 230 235

<210> 131
<211> 237
<212> PRT
<213> Homo sapiens

<400> 131

Met Ser Val Leu Thr Gln Val Leu Ala Leu Leu Leu Trp Leu Thr
1 5 10 15

Gly Thr Arg Cys Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly

FIGURE 9 Continued...

	20						25						30															
Ser Pro Gly Gln Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp 35 40 45																												
Val Gly Asp Ile Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys 50 55 60																												
Ala Pro Lys Leu Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val 65 70 75 80																												
Ser Asn Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr 85 90 95																												
Ile Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser 100 105 110																												
Tyr Gly Glu Ser Leu Thr Ser Tyr Val Phe Gly Gly Gly Thr Lys Leu 115 120 125																												
Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro 130 135 140																												
Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu 145 150 155 160																												
Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp 165 170 175																												
Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln 180 185 190																												
Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu 195 200 205																												
Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly 210 215 220																												
Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser 225 230 235																												
<210>	132																											
<211>	237																											
<212>	PRT																											
<213>	Homo sapiens																											
<400>	132																											

FIGURE 9 Continued...

Met	Ser	Val	Leu	Thr	Gln	Val	Leu	Ala	Leu	Leu	Leu	Leu	Trp	Leu	Thr	1	5	10	15
Gly	Thr	Arg	Cys	Asp	Ile	Ala	Leu	Thr	Gln	Pro	Ala	Ser	Val	Ser	Gly	20	25	30	
Ser	Pro	Gly	Gln	Ser	Ile	Thr	Ile	Ser	Cys	Thr	Gly	Thr	Ser	Ser	Asp	35	40	45	
Val	Gly	Asp	Ile	Asn	Asp	Val	Ser	Trp	Tyr	Gln	Gln	His	Pro	Gly	Lys	50	55	60	
Ala	Pro	Lys	Leu	Met	Ile	Tyr	Asp	Val	Asn	Asn	Arg	Pro	Ser	Gly	Val	65	70	75	80
Ser	Asn	Arg	Phe	Ser	Gly	Ser	Lys	Ser	Gly	Asn	Thr	Ala	Ser	Leu	Thr	85	90	95	
Ile	Ser	Gly	Leu	Gln	Ala	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Ser	Thr	100	105	110	
Tyr	Asp	Gly	Pro	Gly	Leu	Ser	Glu	Val	Phe	Gly	Gly	Gly	Thr	Lys	Leu	115	120	125	
Thr	Val	Leu	Gly	Gln	Pro	Lys	Ala	Ala	Pro	Ser	Val	Thr	Leu	Phe	Pro	130	135	140	
Pro	Ser	Ser	Glu	Glu	Leu	Gln	Ala	Asn	Lys	Ala	Thr	Leu	Val	Cys	Leu	145	150	155	160
Ile	Ser	Asp	Phe	Tyr	Pro	Gly	Ala	Val	Thr	Val	Ala	Trp	Lys	Ala	Asp	165	170	175	
Ser	Ser	Pro	Val	Lys	Ala	Gly	Val	Glu	Thr	Thr	Thr	Pro	Ser	Lys	Gln	180	185	190	
Ser	Asn	Asn	Lys	Tyr	Ala	Ala	Ser	Ser	Tyr	Leu	Ser	Leu	Thr	Pro	Glu	195	200	205	
Gln	Trp	Lys	Ser	His	Arg	Ser	Tyr	Ser	Cys	Gln	Val	Thr	His	Glu	Gly	210	215	220	
Ser	Thr	Val	Glu	Lys	Thr	Val	Ala	Pro	Thr	Glu	Cys	Ser	225	230	235				

FIGURE 9 Continued...

<210> 133
 <211> 1410
 <212> DNA
 <213> Homo sapiens

<400> 133
 atggccttggg tgtggacctt gccattcctg atggcagctg cccaaagcgt gcaggcccag 60
 gtgcagctgg tgcagctgg cggcggactg gtgcagcctg gcggcagcct gagactgagc 120
 tgcgcgcgcca gcggcttcac cttcagcagc tacgtgatga actgggtgcg gcaggcccct 180
 ggcaagggcc tggagtgggt gtccttcac agcggcgaca gcagcaacac ctactacgcc 240
 gacagcgtga agggccggtt caccatcagc cgggacaaca gcaagaacac cctgtacctg 300
 cagatgaaca gcctgcgggc cgaggacacc gccgtgtact actgcgcccg gaccttcacg 360
 cacggccacc tgggcggagg actgagcatg gatttctggg gccagggcac cctggtcacc 420
 gtctcctcag cttccaccaa gggcccatcc gtcttccccc tggcgccctg ctccaggagc 480
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 cagtctcag gactctactc cctcagcagc gtggtgacag tgccctccag caacttcggc 660
 acccagacct acacctgcaa cgtagatcac aagcccagca acaccaaggt ggacaagaca 720
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 tcagtcttcc tcttcccccc aaaacccaag gacacctca tgatctcccg gacctctgag 840
 gtcacgtgcg tgggtggtgga cgtgagccac gaagaccccg aggtccagtt caactggtac 900
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 caggggaacg tcttctcatg ctccgtgatg catgaggctc tgcacaacca ctacacgcag 1380
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<210> 134
 <211> 1389
 <212> DNA
 <213> Homo sapiens

<400> 134

FIGURE 9 Continued...

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atggccttggg tgtggacctt gccattcctg atggcagctg cccaaggtgt ccaggcccag      60
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tgcgccgcca gcggcttcac cttcagaagc cactggctgt cctgggtgcg gcaggcccct      180
ggcaagggcc tggaatgggt gtccaacatc aactacgacg gcagcagcac ctactacgcc      240
gacagcgtga agggccggtt caccatcagc cgggacaaca gcaagaacac cctgtacctg      300
cagatgaaca gcctgcgggc cgaggacacc gccgtgtact actgcgccag ggacacctac      360
ctgcacttcg actactgggg ccagggcacc ctggtcaccg tctcctcagc ttccaccaag      420
ggcccatccg tcttccccct ggcgccctgc tccaggagca cctccgagag cacagcggcc      480
ctgggctgcc tgggtcaagga ctacttcccc gaaccgggtga cgggtgcgtg gaactcaggc      540
gctctgacca gcggcgtgca caccttccca gctgtcctac agtcctcagg actctactcc      600
ctcagcagcg tgggtgacagt gccctccagc aacttcggca ccagaccta cacctgcaac      660
gtagatcaca agcccagcaa caccaaggtg gacaagacag ttgagcga atgttgtgtc      720
gagtgcctac cgtgcccagc accacctgtg gcaggaccgt cagtcttcct cttcccccca      780
aaacccaagg acaccctcat gatctcccg acccctgagg tcacgtgcgt ggtggtggac      840
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aatgccaa gaagccacg ggaggagcag ttcaacagca cgttccgtgt ggtcagcgtc      960
ctcacctgtg tgcaccagga ctggctgaac ggcaaggagt acaagtgcaa ggtctccaac     1020
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acctgcctgg tcaaaggctt ctacccagc gacatcgccg tggagtggga gagcaatggg      1200
cagccggaga acaactaaa gaccacacct cccatgctgg actccgacgg ctcttcttc      1260
ctctacagca agctcaccgt ggacaagagc aggtggcagc aggggaacgt cttctcatgc      1320
tccgtgatgc atgaggctct gcacaaccac tacacgcaga agagcctctc cctgtctccg      1380
ggtaaatga                                     1389

```

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<210> 135
<211> 1410
<212> DNA
<213> Homo sapiens

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```

<400> 135
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gtgcagctgg tgcagctctg cggcggactg gtgcagcctg gcggcagcct gagactgagc      120
tgcgccgcca gcggcttcac cttcagcagc tacgtgatga actgggtgcg gcaggcccct      180

```

FIGURE 9 Continued...

```

ggcaagggcc tggagtgggt gtccctcatc agcggcgaca gcagcaaac ctactacgcc 240
gacagcgtga agggccgggt caccatcagc cgggacaaca gcaagaacac cctgtacctg 300
cagatgaaca gcctgcgggc cgaggacacc gccgtgtact actgcgcccg gaccttcatg 360
cacggccacc tgggcggagg actgagcatg gatttctggg gccagggcac cctggtcacc 420
gtctcctcag ctccaccaaa gggcccatcc gtcttcccc tggcgccctg ctccaggagc 480
acctccgaga gcacagcggc cctgggctgc ctgggtcaagg actacttccc cgaaccggtg 540
acgggtgtcgt ggaactcagg cgctctgacc agcggcgtgc acaccttccc agctgtccta 600
cagtcctcag gactctactc cctcagcagc gtgggtgacag tgccctccag caacttcggc 660
accagacct acacctgcaa cgtagatcac aagcccagca acaccaaggt ggacaagaca 720
gttgagcgca aatgttgtgt cgagtgccca ccgtgccag caccacctgt ggcaggaccg 780
tcagtcttcc tcttcccccc aaaacccaag gacacctca tgatctcccg gacccctgag 840
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gtggacggcg tggaggtgca taatgccaa acaaagccac gggaggagca gttcaacagc 960
acgttccgtg tggtcagcgt cctcaccgtt gtgcaccagg actggctgaa cggcaaggag 1020
tacaagtgca aggtctccaa caaaggcctc ccagcccca tcgagaaaac catctccaaa 1080
accaaagggc agccccgaga accacagggtg tacaccctgc ccccatcccg ggaggagatg 1140
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gactccgacg gctccttctt cctctacagc aagctcaccg tggacaagag caggtggcag 1320
caggggaacg tcttctcatg ctccgtgatg catgaggctc tgcacaacca ctacacgag 1380
aagagcctct ccctgtctcc gggtaaata 1410

```

```

<210> 136
<211> 1389
<212> DNA
<213> Homo sapiens

```

```

<400> 136
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tgccgcccca gcggcttcac cttcagaagc cactggctgt cctgggtgag gcaggcccct 180
ggcaagggcc tggaatgggt gtccaacatc aactacgacg gcagcagcac ctactacgcc 240
gacagcgtga agggccgggt caccatcagc cgggacaaca gcaagaacac cctgtacctg 300
cagatgaaca gcctgcgggc cgaggacacc gccgtgtact actgcgccag ggacacctac 360

```

FIGURE 9 Continued...

```

ctgcacttcg actactgggg ccagggcacc ctgggtcaccg tctcctcagc ttccaccaag 420
ggcccatccg tcttccccct ggcgccctgc tccaggagca cctccgagag cacagcggcc 480
ctgggctgcc tgggtcaagga ctacttcccc gaaccgggtga cgggtgtcgtg gaactcaggc 540
gctctgacca gcggcgtgca caccttcccc gctgtcctac agtcctcagg actctactcc 600
ctcagcagcg tgggtgacagt gccctccagc aacttcggca cccagaccta cacctgcaac 660
gtagatcaca agcccagcaa caccaagggtg gacaagacag ttgagcgcaa atgttgtgtc 720
gagtgcccac cgtgcccagc accacctgtg gcaggaccgt cagtcttcct cttcccccca 780
aaacccaagg acaccctcat gatctccgg acccctgagg tcacgtgcgt ggtggtggac 840
gtgagccacg aagaccccgga ggtccagttc aactggtagc tggacggcgt ggaggtgcat 900
aatgccaaga caaagccacg ggaggagcag ttcaacagca cgttccgtgt ggtcagcgtc 960
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aaaggcctcc cagcccccat cgagaaaacc atctccaaaa ccaaagggca gcccagagaa 1080
ccacagggtg acaccctgcc cccatcccgg gaggagatga ccaagaacca ggtcagcctg 1140
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cagccggaga acaactacaa gaccacacct cccatgctgg actccgacgg ctccctcttc 1260
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tccgtgatgc atgaggctct gcacaaccac tacacgcaga agagcctctc cctgtctccg 1380
ggtaaatga 1389

```

```

<210> 137
<211> 1386
<212> DNA
<213> Homo sapiens

```

```

<400> 137
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gtgcagctgg tcgagagcgg cggagggtgt gtgcagcctg gcggcagcct gagactgagc 120
tgcccgcca gcggcttcac cttcagaagc cactggctgt cctgggtgcg gcaggcccct 180
ggcaagggcc tggaatgggt gtccgtgacc ggcgtgcacg gcgacaccta ctacgccgac 240
agcgtgaagg gccggttcac catcagccgg gacaacagca agaacaccct gtacctgcag 300
atgaacagcc tgcggggcca ggacaccgcc gtgtactact gcgccaggga cacctacctg 360
cacttcgact actggggcca gggcaccctg gtcaccgtct cctcagcttc caccaagggc 420
ccatccgtct tccccctggc gccctgctcc aggagcacct ccgagagcac agcggccctg 480
ggctgcctgg tcaaggacta cttccccgaa ccggtgacgg tgtcgtggaa ctcaggcgt 540

```

FIGURE 9 Continued...

```

ctgaccagcg gcggtgcacac cttcccagct gtcctacagt cctcaggact ctactccctc 600
agcagcgtgg tgacagtgcc ctccagcaac ttgggcaccc agacctacac ctgcaacgta 660
gatcacaagc ccagcaacac caaggtggac aagacagttg agcgcaaatg ttgtgtcgag 720
tgcccaccgt gcccagcacc acctgtggca ggaccgtcag tcttcctctt cccccaaaa 780
cccaaggaca ccctcatgat ctccgggacc cctgaggtca cgtgcgtggg ggtggacgtg 840
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accgttgtgc accaggactg gctgaacggc aaggagtaca agtgcaaggc ctccaacaaa 1020
ggcctcccag ccccatcga gaaaaccatc tccaaaacca aagggcagcc ccgagaacca 1080
caggtgtaca ccctgcccc atcccgagg gagatgacca agaaccaggc cagcctgacc 1140
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ccggagaaca actacaagac cacacctccc atgctggact ccgacggctc cttcttcctc 1260
tacagcaagc tcaccgtgga caagagcagg tggcagcagg ggaacgtctt ctcatgctcc 1320
gtgatgcatg aggctctgca caaccactac acgcagaaga gcctctccct gtctccgggt 1380
aatga 1386

```

```

<210> 138
<211> 1386
<212> DNA
<213> Homo sapiens

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<400> 138
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tgcccgcca gcggcttcac cttcagaagc cactggctgt cctgggtgag gcaggcccct 180
ggcaagggcc tggaatgggt gtccgtgatc ggcaactggg gcgacaccta ctacgcccag 240
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atgaacagcc tcggggccga ggacaccgcc gtgtactact gcgccaggga cacctacctg 360
catttcgact actggggcca gggcaccctg gtcaccgtct cctcagcttc caccaagggc 420
ccatccgtct tccccctggc gccctgctcc aggagcacct ccgagagcac agcggccctg 480
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agcagcgtgg tgacagtgcc ctccagcaac ttgggcaccc agacctacac ctgcaacgta 660
gatcacaagc ccagcaacac caaggtggac aagacagttg agcgcaaatg ttgtgtcgag 720

```


FIGURE 9 Continued...

tgcccaccgt gccagcacc acctgtggca ggaccgtcag tcttcctctt cccccaaaa	780
cccaaggaca ccctcatgat ctcccgacc cctgaggtca cgtgcgtggt ggtggacgtg	840
agccacgaag accccgaggt ccagttcaac tggtagctgg acggcgtgga ggtgcataat	900
gccaaagaaa agccacggga ggagcagttc aacagcacgt tccgtgtggt cagcgtcctc	960
accgttgtgc accaggactg gctgaacggc aaggagtaca agtgcaaggt ctccaacaaa	1020
ggcctcccag ccccatcga gaaaaccatc tccaaaacca aagggcagcc ccgagaacca	1080
caggtgtaca ccctgcccc atcccgagg gagatgacca agaaccaggt cagcctgacc	1140
tgctgtgtca aaggcttcta ccccgagac atcgccgtgg agtgggagag caatgggcag	1200
ccggagaaca actacaagac cacacctccc atgctggact ccgacggctc cttcttctc	1260
tacagcaagc tcaccgtgga caagagcagg tggcagcagg ggaacgtctt ctcatgctcc	1320
gtgatgcatg aggcctctga caaccactac acgcagaaga gcctctccct gtctccgggt	1380
aaatga	1386

<210> 139
 <211> 1386
 <212> DNA
 <213> Homo sapiens

<400> 139	
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tgccgcgcca gggccttcac cttcagaagc cactggctgt cctgggtgag gcaggcccct	180
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agcgtgaagg gccggttcac catcagccgg gacaacagca agaaccacct gtacctgag	300
atgaacagcc tgcgggcca ggacaccgcc gtgtactact gcgccaggga cacctacctg	360
cacttcgact actggggcca gggcaccctg gtcacogtct cctcagcttc caccaagggc	420
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ggctgcctgg tcaaggacta cttccccgaa ccggtgacgg tgcgtggaa ctcaggcgct	540
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tgcccaccgt gccagcacc acctgtggca ggaccgtcag tcttcctctt cccccaaaa	780
cccaaggaca ccctcatgat ctcccgacc cctgaggtca cgtgcgtggt ggtggacgtg	840
agccacgaag accccgaggt ccagttcaac tggtagctgg acggcgtgga ggtgcataat	900

FIGURE 9 Continued...

gccaaagacaa agccacggga ggagcagttc aacagcacgt tccgtgtggt cagcgtcctc 960
 accgttgtgc accaggactg gctgaacggc aaggagtaca agtgcaagggt ctccaacaaa 1020
 ggctcccag ccccatcga gaaaaccatc tccaaaacca aagggcagcc ccgagaacca 1080
 caggtgtaca ccctgcccc atcccgagg gagatgacca agaaccagggt cagcctgacc 1140
 tgctgtgtca aaggcttcta ccccgagcag atcgccgtgg agtgggagag caatgggcag 1200
 ccggagaaca actacaagac cacacctccc atgctggact ccgacggctc cttcttcctc 1260
 tacagcaagc tcaccgtgga caagagcagg tggcagcagg ggaacgtctt ctcatgctcc 1320
 gtgatgcatg aggcctctga caaccactac acgcagaaga gcctctccct gtctccgggt 1380
 aaatga 1386

<210> 140
 <211> 1386
 <212> DNA
 <213> Homo sapiens

<400> 140
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 tgcgcccga ggggtttcac cttcagaagc cactggctgt cctgggtgag gcaggcccct 180
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 accgttgtgc accaggactg gctgaacggc aaggagtaca agtgcaagggt ctccaacaaa 1020
 ggctcccag ccccatcga gaaaaccatc tccaaaacca aagggcagcc ccgagaacca 1080

FIGURE 9 Continued...

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 ccggagaaca actacaagac cacacctccc atgctggact ccgacggctc cttcttcctc 1260
 tacagcaagc tcaccgtgga caagagcagg tggcagcagg ggaacgtctt ctcagtctcc 1320
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 aaatga 1386

<210> 141
 <211> 1389
 <212> DNA
 <213> Homo sapiens

<400> 141
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 aatgccaaga caaagccacg ggaggagcag ttcaacagca cgttccgtgt ggtcagcgtc 960
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 acctgcctgg tcaaaggctt ctacccagc gacatcgccg tggagtggga gagcaatggg 1200
 cagccggaga acaactacaa gaccacacct cccatgctgg actccgacgg ctccttcttc 1260

FIGURE 9 Continued...

```

ctctacagca agctcacccgt ggacaagagc aggtggcagc aggggaacgt cttctcatgc 1320
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ggtaaataga                                     1389

<210> 142
<211> 1386
<212> DNA
<213> Homo sapiens

<400> 142
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cacttcgact actggggcca gggcacccctg gtcaccgtct cctcagcttc caccaagggc 420
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ggctgcctgg tcaaggacta cttccccgaa ccggtgacgg tgtcgtggaa ctcaggcgct 540
ctgaccagcg gcgtgcacac cttcccagct gtcctacagt cctcaggact ctactccctc 600
agcagcgtgg tgacagtgcc ctccagcaac ttccggcacc agacctacac ctgcaacgta 660
gatcacaagc ccagcaacac caaggtggac aagacagttg agcgcaaata ttgtgtcgag 720
tgccaccctg gccagcacc accctgtggc ggaccgtcag tcttcctctt cccccaaaaa 780
cccaaggaca ccctcatgat ctcccggacc cctgaggtca cgtgcgtggg ggtggacgtg 840
agccacgaag accccgaggt ccagttcaac tggtagctgg acggcgtgga ggtgcataat 900
gccaagacaa agccacggga ggagcagttc aacagcacgt tccgtgtggg cagcgtcctc 960
accgttgtgc accaggactg gctgaacggc aaggagtaca agtgcaaggt ctccaacaaa 1020
ggcctcccag ccccatcga gaaaaccatc tccaaaacca aagggcagcc ccgagaacca 1080
caggtgtaca ccctgcccc atcccgggag gagatgacca agaaccaggt cagcctgacc 1140
tgcttgtca aaggcttcta ccccagcgac atcgccgtgg agtgggagag caatgggcag 1200
ccggagaaca actacaagac cacacctccc atgctggact ccgacggctc cttcttcctc 1260
tacagcaagc tcaccgtgga caagagcagg tggcagcagg ggaacgtctt ctcagtctcc 1320
gtgatgcatg aggtcttgca caaccactac acgcagaaga gcctctccct gtctccgggt 1380
aaatga                                     1386

```

FIGURE 9 Continued...

<210> 143
 <211> 1386
 <212> DNA
 <213> Homo sapiens

<400> 143
 atggcttggg tgtggacctt gccattcctg atggcagctg cccaaagtgt ccaggcccag 60
 gtgcagctgg tcgagagcgg cggagggctg gtgcagcctg gcggcagcct gagactgagc 120
 tgcgcgcgcca gcggcttcac cttcagaagc cactggctgt cctgggtgcg gcaggcccct 180
 ggcaagggcc tggaatgggt gtccgtgatc accccctacg gcgacaccta ctacgcgac 240
 agcgtgaagg gccggttcac catcagccgg gacaacagca agaaccacct gtacctgcag 300
 atgaacagcc tgcggggccga ggacaccgcc gtgtactact gcgccaggga cacctacctg 360
 cacttcgact actggggcca gggcaccctg gtcaccgtct cctcagcttc caccaagggc 420
 ccatccgtct tccccctggc gccctgctcc aggagcacct ccgagagcac agcggccctg 480
 ggctgcctgg tcaaggacta cttccccgaa ccggtgacgg tgtcgtggaa ctcaggcgct 540
 ctgaccagcg gcgtgcacac cttcccagct gtcctacagt cctcaggact ctactccctc 600
 agcagcgtgg tgacagtgcc ctccagcaac ttccggcacc agacctacac ctgcaacgta 660
 gatcacaagc ccagcaacac caaggtggac aagacagttg agcgcaaatg ttgtgtcgag 720
 tgcccaccgt gcccagcacc acctgtggca ggaccgtcag tcttcctctt ccccccaaa 780
 cccaaggaca ccctcatgat ctcccggacc cctgaggtca cgtgcgtggg ggtggacgtg 840
 agccacgaag accccgaggt ccagttcaac tggtagctgg acggcgtgga ggtgcataat 900
 gccaaagaca agccacggga ggagcagttc aacagcacgt tccgtgtggg cagcgtcctc 960
 accgttgtgc accaggactg gctgaacggc aaggagtaca agtgcaaggt ctccaacaaa 1020
 ggcctcccag cccccatcga gaaaaccatc tccaaaacca aagggcagcc ccgagaacca 1080
 caggtgtaca ccctgcccc atcccgggag gagatgacca agaaccaggt cagcctgacc 1140
 tgcctgggtc aaggcttcta cccagcgac atcgccgtgg agtgggagag caatgggcag 1200
 ccggagaaca actacaagac cacacctccc atgctggact ccgacggctc cttcttcctc 1260
 tacagcaagc tcaccgtgga caagagcagg tggcagcagg ggaacgtctt ctcatgctcc 1320
 gtgatgcatg aggtcttgca caaccactac acgcagaaga gcctctccct gtctccgggt 1380
 aatga 1386

<210> 144
 <211> 393
 <212> DNA
 <213> Homo sapiens

FIGURE 9 Continued...

<400> 144
 atgaaaaaga cagctatcgc gattgcagtg gcactggctg gtttcgctac cgtagcgag 60
 gccgatatcg aactgaccca gccgccttca gtgagcgttg caccaggtca gaccgcgcgt 120
 atctcgtgta gcggcgataa tattggttct ttttatgttc attggtacca gcagaaaccc 180
 gggcaggcgc cagttcttgt gatattatgat gataataatc gtccctcagg catcccggaa 240
 cgcttttagcg gatccaacag cggcaacacc gcgacctga ccattagcgg cactcaggcg 300
 gaagacgaag cggattatta ttgcggttct tgggctggtt cttctggttc ttatgtgttt 360
 ggcgcccgca cgaagttaac cgttcttgcc cag 393

<210> 145
 <211> 714
 <212> DNA
 <213> Homo sapiens

<400> 145
 atgagtgtgc tctactcaggt cctggcggtg ctgctgctgt ggcttacagg tacgcgttgc 60
 gacatcgccc tgaccagcc cgcagcgtg agcggcagcc ctggccagag catcaccatc 120
 agctgcaccg gcaccagcag cgacgtgggc gacatcaacg acgtgagctg gtatcagcag 180
 cccccggca agggcccca gctgatgatc tacgacgtga acaaccggcc cagcggcgtg 240
 agcaaccggt tcagcggcag caagagcggc aacaccgcca gcctgaccat cagcggcctc 300
 caggccgagg acgagccga ctactactgc agcagctacg gcgagagcct gaccagctac 360
 gtgtttggcg gcggaaccaa gcttaccgtc ctaggtcagc ccaaggctgc cccctcggtc 420
 actctgttcc cgcctcctc tgaggagctt caagccaaca aggcacact ggtgtgtctc 480
 ataagtgact tctaccggg agccgtgaca gtggcctgga aggcagatag cagccccgtc 540
 aaggcgggag tggagacaac cacaccctcc aaacaaagca acaacaagta cgcggccagc 600
 agctatctga gcctgacgcc tgagcagtg aagtcacaca gaagctacag ctgccaggtc 660
 acgcatgaag ggagcacctg ggaaaagaca gtggccccta cagaatgttc atag 714

<210> 146
 <211> 705
 <212> DNA
 <213> Homo sapiens

<400> 146
 atgagtgtgc tctactcaggt cctggcggtg ctgctgctgt ggcttacagg tacgcgttgc 60
 gacatcgagc tgaccagcc cccagcgtg agcgtggccc ctggccagac cgcgccgatc 120
 agctgcagcg gcgacaacat cggcagcttc tacgtgcact ggtatcagca gaagcccggc 180
 caggcccccg tgctggtgat ctacgacgac aacaaccggc ccagcggcat ccccgagcgg 240

FIGURE 9 Continued...

```

ttcagcggca gcaacagcgg caacaccgcc accctgacca tcagcggcac ccaggccgag 300
gacgaggccg actactactg cgccagctgg accggcgtgg agcccgacta cgtgtttggc 360
ggcgggaacaa agcttaccgt cctaggtcag cccaaggctg cccctcgggt cactctgttc 420
ccgccctcct ctgaggagct tcaagccaac aaggccacac tgggtgtgtct cataagtgac 480
ttctaccggg gagccgtgac agtggcctgg aaggcagata gcagccccgt caaggcggga 540
gtggagacaa ccacaccctc caaacaagc aacaacaagt acgcgccag cagctatctg 600
agcctgacgc ctgagcagtg gaagtccac agaagctaca gctgccaggt cagcatgaa 660
gggagcaccg tggaaaagac agtggccctt acagaatgtt catag 705

```

```

<210> 147
<211> 714
<212> DNA
<213> Homo sapiens

```

```

<400> 147
atgagtgtgc tactcaggt cctggcgttg ctgctgctgt ggcttacagg tacgcgttgc 60
gacatgccc tgaccagcc cgccagcgtg agcggcagcc ctggccagag catcaccatc 120
agctgcaccg gcaccagcag cgacgtgggc gacatcaacg acgtgagctg gtatcagcag 180
caccgccgca agggcccaa gctgatgatc tacgacgtga acaaccggcc cagcggcgtg 240
agcaaccggg tcagcggcag caagagcggc aacaccgcca gcctgaccat cagcggcctc 300
caggccgagg acgaggccga ctactactgc cagagctacg ccggcagcta cctgagcgag 360
gtgttcggcg gagggaccaa gcttaccgtc ctaggtcagc ccaaggctgc cccctcggtc 420
actctgttcc cgccctcctc tgaggagctt caagccaaca aggccacact ggtgtgtctc 480
ataagtgact tctaccggg agccgtgaca gtggcctgga aggcagatag cagccccgtc 540
aaggcgggag tggagacaac cacaccctcc aaacaagca acaacaagta cgcgccagc 600
agctatctga gcctgacgcc tgagcagtgg aagtccaca gaagctacag ctgccaggtc 660
acgcatgaag ggagcaccgt ggaaaagaca gtggcccta cagaatgttc atag 714

```

```

<210> 148
<211> 714
<212> DNA
<213> Homo sapiens

```

```

<400> 148
atgagtgtgc tactcaggt cctggcgttg ctgctgctgt ggcttacagg tacgcgttgc 60
gacatgccc tgaccagcc cgccagcgtg agcggcagcc ctggccagag catcaccatc 120
agctgcaccg gcaccagcag cgacgtgggc gacatcaacg acgtgagctg gtatcagcag 180
caccgccgca agggcccaa gctgatgatc tacgacgtga acaaccggcc cagcggcgtg 240

```

FIGURE 9 Continued...

```

agcaaccggt tcagcggcag caagagcggc aacaccgcca gcctgaccat cagcggcctc 300
caggccgagg acgaggccga ctactactgc agcagctacg gcgagagcct gaccagctac 360
gtgtttggcg gcggaaccaa gcttaccgtc ctaggtcagc ccaaggctgc cccctcggtc 420
actctgttcc cgccctcctc tgaggagctt caagccaaca aggccacact ggtgtgtctc 480
ataagtgact tctaccggg agccgtgaca gtggcctgga aggcagatag cagccccgtc 540
aaggcgggag tggagacaac cacaccctcc aaacaaagca acaacaagta cgcggccagc 600
agctatctga gcctgacgcc tgagcagtgg aagtcccaca gaagctacag ctgccaggtc 660
acgcatgaag ggagcaccgt ggaaaagaca gtggccccta cagaatgttc atag 714

```

```

<210> 149
<211> 714
<212> DNA
<213> Homo sapiens

```

```

<400> 149
atgagtgtgc tcactcaggt cctggcggtg ctgctgctgt ggcttacagg tacgcgttgc 60
gacatcgccc tgaccagcc cgccagcgtg agcggcagcc ctggccagag catcaccatc 120
agctgcaccg gcaccagcag cgacgtgggc gacatcaacg acgtgagctg gtatcagcag 180
caccgccgca agggcccca gctgatgac tacgacgtga acaaccggcc cagcggcgtg 240
agcaaccggt tcagcggcag caagagcggc aacaccgcca gcctgaccat cagcggcctc 300
caggccgagg acgaggccga ctactactgc agcagctacg gcgagagcct gaccagctac 360
gtgtttggcg gcggaaccaa gcttaccgtc ctaggtcagc ccaaggctgc cccctcggtc 420
actctgttcc cgccctcctc tgaggagctt caagccaaca aggccacact ggtgtgtctc 480
ataagtgact tctaccggg agccgtgaca gtggcctgga aggcagatag cagccccgtc 540
aaggcgggag tggagacaac cacaccctcc aaacaaagca acaacaagta cgcggccagc 600
agctatctga gcctgacgcc tgagcagtgg aagtcccaca gaagctacag ctgccaggtc 660
acgcatgaag ggagcaccgt ggaaaagaca gtggccccta cagaatgttc atag 714

```

```

<210> 150
<211> 714
<212> DNA
<213> Homo sapiens

```

```

<400> 150
atgagtgtgc tcactcaggt cctggcggtg ctgctgctgt ggcttacagg tacgcgttgc 60
gacatcgccc tgaccagcc cgccagcgtg agcggcagcc ctggccagag catcaccatc 120
agctgcaccg gcaccagcag cgacgtgggc gacatcaacg acgtgagctg gtatcagcag 180

```


FIGURE 9 Continued...

```

caccocggca agggcccca gctgatgatc tacgacgtga acaaccggcc cagcggcgtg 240
agcaaccggt tcagcggcag caagagcggc aacaccgcca gcctgaccat cagcggcctc 300
caggccgagg acgaggccga ctactactgc agcagctacg gcgagagcct gaccagctac 360
gtgtttggcg gcggaaccaa gcttaccgtc ctaggtcagc ccaaggctgc cccctcggtc 420
actctgttcc cgccctcctc tgaggagctt caagccaaca aggccacact ggtgtgtctc 480
ataagtgact tctaccggg agccgtgaca gtggcctgga aggcagatag cagccccgtc 540
aaggcgggag tggagacaac cacaccctcc aaacaaagca acaacaagta cgcgccagc 600
agctatctga gcctgacgcc tgagcagtgg aagtcccaca gaagctacag ctgccaggtc 660
acgcatgaag ggagcaccgt ggaaaagaca gtggccccta cagaatgttc atag 714

```

```

<210> 151
<211> 714
<212> DNA
<213> Homo sapiens

```

```

<400> 151
atgagtgtgc tcaactcaggt cctggcggtg ctgctgctgt ggcttacagg tacgcgttgc 60
gacatcgccc tgaccagacc cgccagcgtg agcggcagcc ctggccagag catcaccatc 120
agctgcaccg gcaccagcag cgacgtgggc gacatcaacg acgtgagctg gtatcagcag 180
caccocggca agggcccca gctgatgatc tacgacgtga acaaccggcc cagcggcgtg 240
agcaaccggt tcagcggcag caagagcggc aacaccgcca gcctgaccat cagcggcctc 300
caggccgagg acgaggccga ctactactgc agcagctacg gcgagagcct gaccagctac 360
gtgtttggcg gcggaaccaa gcttaccgtc ctaggtcagc ccaaggctgc cccctcggtc 420
actctgttcc cgccctcctc tgaggagctt caagccaaca aggccacact ggtgtgtctc 480
ataagtgact tctaccggg agccgtgaca gtggcctgga aggcagatag cagccccgtc 540
aaggcgggag tggagacaac cacaccctcc aaacaaagca acaacaagta cgcgccagc 600
agctatctga gcctgacgcc tgagcagtgg aagtcccaca gaagctacag ctgccaggtc 660
acgcatgaag ggagcaccgt ggaaaagaca gtggccccta cagaatgttc atag 714

```

```

<210> 152
<211> 714
<212> DNA
<213> Homo sapiens

```

```

<400> 152
atgagtgtgc tcaactcaggt cctggcggtg ctgctgctgt ggcttacagg tacgcgttgc 60
gacatcgccc tgaccagacc cgccagcgtg agcggcagcc ctggccagag catcaccatc 120
agctgcaccg gcaccagcag cgacgtgggc gacatcaacg acgtgagctg gtatcagcag 180

```

FIGURE 9 Continued...

```

caccgccgga agggccccc aa gctgatgatc tacgacgtga acaaccggcc cagcggcggtg      240
agcaaccggg tcagcggcag caagagcggc aacaccgcca gcctgaccat cagcgggcctc      300
caggccgagg acgaggccga ctactactgc agcacctacg acggccctgg cctgagcgag      360
gtgttcggcg gagggaccaa gcttaccgtc ctaggtcagc ccaaggctgc cccctcggtc      420
actctgttcc cgccctcctc tgaggagctt caagccaaca aggccacact ggtgtgtctc      480
ataagtgact tctaccggg agccgtgaca gtggcctgga aggcagatag cagccccgtc      540
aaggcgggag tggagacaac cacaccctcc aaacaaagca acaacaagta cgcggccagc      600
agctatctga gcctgacgcc tgagcagtg aagtcccaca gaagctacag ctgccaggtc      660
acgcatgaag ggagcacctg ggaaaagaca gtggccccta cagaatgttc atag              714

```

```

<210> 153
<211> 714
<212> DNA
<213> Homo sapiens

```

```

<400> 153
atgagtgtgc tcactcaggt cctggcggtg ctgctgctgt ggcttacagg tacgcgttgc      60
gacatcgccc tgaccagcc cgccagcgtg agcggcagcc ctggccagag catcaccatc      120
agctgcaccg gcaccagcag cgacgtgggc gacatcaacg acgtgagctg gtatcagcag      180
caccgccgga agggccccc aa gctgatgatc tacgacgtga acaaccggcc cagcggcggtg      240
agcaaccggg tcagcggcag caagagcggc aacaccgcca gcctgaccat cagcgggcctc      300
caggccgagg acgaggccga ctactactgc agcacctacg acggccctgg cctgagcgag      360
gtgttcggcg gagggaccaa gcttaccgtc ctaggtcagc ccaaggctgc cccctcggtc      420
actctgttcc cgccctcctc tgaggagctt caagccaaca aggccacact ggtgtgtctc      480
ataagtgact tctaccggg agccgtgaca gtggcctgga aggcagatag cagccccgtc      540
aaggcgggag tggagacaac cacaccctcc aaacaaagca acaacaagta cgcggccagc      600
agctatctga gcctgacgcc tgagcagtg aagtcccaca gaagctacag ctgccaggtc      660
acgcatgaag ggagcacctg ggaaaagaca gtggccccta cagaatgttc atag              714

```

```

<210> 154
<211> 714
<212> DNA
<213> Homo sapiens

```

```

<400> 154
atgagtgtgc tcactcaggt cctggcggtg ctgctgctgt ggcttacagg tacgcgttgc      60
gacatcgccc tgaccagcc cgccagcgtg agcggcagcc ctggccagag catcaccatc      120

```

FIGURE 9 Continued...

```

agctgcaccg gcaccagcag cgacgtgggc gacatcaacg acgtgagctg gtatcagcag 180
caccgccggca agggccccaa gctgatgata tacgacgtga acaaccggcc cagcggcgtg 240
agcaaccggg tcagcggcag caagagcggc aacaccgcca gcctgaccat cagcggcctc 300
caggccgagg acgaggccga ctactactgc agcacctacg acggccctgg cctgagcgag 360
gtgttcggcg gagggaccaa gcttaccgtc ctaggtcagc ccaaggctgc cccctcggtc 420
actctgttcc cgccctcctc tgaggagctt caagccaaca aggccacact ggtgtgtctc 480
ataagtgact tctaccggg agccgtgaca gtggcctgga aggcagatag cagccccgtc 540
aaggcgggag tggagacaac cacaccctcc aaacaaagca acaacaagta cgcgccagc 600
agctatctga gcctgacgcc tgagcagtgg aagtcacaca gaagctacag ctgccaggtc 660
acgcatgaag ggagcaccgt ggaaaagaca gtggccccta cagaatgttc atag 714

```

```

<210> 155
<211> 213
<212> PRT
<213> homo sapiens

```

```

<400> 155

```

```

Met Gln Leu Pro Leu Ala Leu Cys Leu Val Cys Leu Leu Val His Thr
1           5           10          15

```

```

Ala Phe Arg Val Val Glu Gly Gln Gly Trp Gln Ala Phe Lys Asn Asp
          20          25          30

```

```

Ala Thr Glu Ile Ile Pro Glu Leu Gly Glu Tyr Pro Glu Pro Pro Pro
          35          40          45

```

```

Glu Leu Glu Asn Asn Lys Thr Met Asn Arg Ala Glu Asn Gly Gly Arg
          50          55          60

```

```

Pro Pro His His Pro Phe Glu Thr Lys Asp Val Ser Glu Tyr Ser Cys
65           70           75          80

```

```

Arg Glu Leu His Phe Thr Arg Tyr Val Thr Asp Gly Pro Cys Arg Ser
          85          90          95

```

```

Ala Lys Pro Val Thr Glu Leu Val Cys Ser Gly Gln Cys Gly Pro Ala
          100          105          110

```

```

Arg Leu Leu Pro Asn Ala Ile Gly Arg Gly Lys Trp Trp Arg Pro Ser
          115          120          125

```

```

Gly Pro Asp Phe Arg Cys Ile Pro Asp Arg Tyr Arg Ala Gln Arg Val

```

FIGURE 9 Continued...

130 135 140
 Gln Leu Leu Cys Pro Gly Gly Glu Ala Pro Arg Ala Arg Lys Val Arg
 145 150 155 160
 Leu Val Ala Ser Cys Lys Cys Lys Arg Leu Thr Arg Phe His Asn Gln
 165 170 175
 Ser Glu Leu Lys Asp Phe Gly Thr Glu Ala Ala Arg Pro Gln Lys Gly
 180 185 190
 Arg Lys Pro Arg Pro Arg Ala Arg Ser Ala Lys Ala Asn Gln Ala Glu
 195 200 205
 Leu Glu Asn Ala Tyr
 210
 <210> 156
 <211> 14
 <212> PRT
 <213> Homo sapiens
 <400> 156
 Ala Arg Leu Leu Asn Ala Ile Gly Arg Gly Lys Trp Trp Arg
 1 5 10
 <210> 157
 <211> 15
 <212> PRT
 <213> Homo sapiens
 <400> 157
 Arg Leu Val Ala Ser Cys Lys Cys Lys Arg Leu Thr Arg Phe His
 1 5 10 15
 <210> 158
 <211> 13
 <212> PRT
 <213> Artificial
 <220>
 <223> Protein linker sequence
 <400> 158
 Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
 1 5 10
 <210> 159
 <211> 19
 <212> PRT

FIGURE 9 Continued...

<213> Artificial

<220>

<223> Protein linker sequence

<400> 159

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
1 5 10 15

Gly Gly Gly

<210> 160

<211> 21

<212> DNA

<213> Artificial

<220>

<223> siRNA

<400> 160

taaattatca taaagtccta a

21

<210> 161

<211> 21

<212> DNA

<213> Artificial

<220>

<223> siRNA

<400> 161

aggactttat gataatttat t

21

<210> 162

<211> 21

<212> DNA

<213> Artificial

<220>

<223> siRNA

<400> 162

atagtgggta aataactcca g

21

<210> 163

<211> 21

<212> DNA

<213> Artificial

<220>

<223> siRNA

<400> 163

ggagttattt aaccactatt t

21

FIGURE 9 Continued...

<210> 164
<211> 21
<212> DNA
<213> Artificial

<220>
<223> siRNA

<400> 164
taaattctcg tgatgtgcca t 21

<210> 165
<211> 21
<212> DNA
<213> Artificial

<220>
<223> siRNA

<400> 165
ggcacatcac gagaatttat t 21

<210> 166
<211> 21
<212> DNA
<213> Artificial

<220>
<223> siRNA

<400> 166
tttcttatag cacagctggt t 21

<210> 167
<211> 21
<212> DNA
<213> Artificial

<220>
<223> siRNA

<400> 167
ccagctgtgc tataagaaat t 21

<210> 168
<211> 21
<212> DNA
<213> Artificial

<220>
<223> siRNA

<400> 168
tagacctttc catccacgct g 21

FIGURE 9 Continued...

<210> 169
<211> 21
<212> DNA
<213> Artificial

<220>
<223> siRNA

<400> 169
gcgtggatgg aaaggtctat t

21

<210> 170
<211> 29
<212> DNA
<213> Artificial

<220>
<223> RT-PCT primer

<400> 170
atgcagctcc cactggccct gtgtcttgt

29

<210> 171
<211> 30
<212> DNA
<213> Artificial

<220>
<223> RT-PCR primer

<400> 171
aatcaggccg agctggagaa cgctactag

30

FIGURE 10

SEQUENCE LISTING

<110> Ablynx N.V.
 <120> Amino acid sequences directed against sclerostin and polypeptides comprising the same for the treatment of bone diseases and disorders
 <130> P09-013-PCT-1
 <150> US 61/178,679
 <151> 2009-05-15
 <160> 199
 <170> PatentIn version 3.5
 <210> 1
 <211> 102
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> KERE-class Nanobody
 <220>
 <221> misc_feature
 <222> (31)..(35)
 <223> CDR
 <220>
 <221> misc_feature
 <222> (50)..(54)
 <223> CDR
 <220>
 <221> misc_feature
 <222> (87)..(91)
 <223> CDR
 <400> 1
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ile Pro Phe Ser Xaa Xaa
 20 25 30
 Xaa Xaa Xaa Trp Phe Arg Gln Ala Pro Gly Lys Gln Arg Asp Ser Val
 35 40 45
 Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
 50 55 60
 Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ala
 65 70 75 80

FIGURE 10 Continued...

Val Tyr Arg Cys Tyr Phe Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr
 85 90 95

Gln Val Thr Val Ser Ser
 100

<210> 2
 <211> 102
 <212> PRT
 <213> Artificial Sequence

<220>
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<220>
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 <222> (31)..(35)
 <223> CDR

<220>
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 <222> (50)..(54)
 <223> CDR

<220>
 <221> misc_feature
 <222> (87)..(91)
 <223> CDR

<400> 2

Gln Val Lys Leu Glu Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Val Gly Ser Gly Arg Thr Phe Ser Xaa Xaa
 20 25 30

Xaa Xaa Xaa Trp Phe Arg Leu Ala Pro Gly Lys Glu Arg Glu Phe Val
 35 40 45

Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Arg Asp Thr Ala Ser
 50 55 60

Asn Arg Gly Tyr Leu His Met Asn Asn Leu Thr Pro Glu Asp Thr Ala
 65 70 75 80

Val Tyr Tyr Cys Ala Ala Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr
 85 90 95

Gln Val Thr Val Ser Ser
 100

FIGURE 10 Continued...

<210> 3
 <211> 102
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 <213> Artificial Sequence

<220>
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<220>
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 <222> (31)..(35)
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<220>
 <221> misc_feature
 <222> (50)..(54)
 <223> CDR

<220>
 <221> misc_feature
 <222> (87)..(91)
 <223> CDR

<400> 3

Ala Val Gln Leu Val Asp Ser Gly Gly Gly Leu Val Gln Ala Gly Asp
 1 5 10 15

Ser Leu Lys Leu Ser Cys Ala Leu Thr Gly Gly Ala Phe Thr Xaa Xaa
 20 25 30

Xaa Xaa Xaa Trp Phe Arg Gln Thr Pro Gly Arg Glu Arg Glu Phe Val
 35 40 45

Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
 50 55 60

Asn Met Val Tyr Leu Arg Met Asn Ser Leu Ile Pro Glu Asp Ala Ala
 65 70 75 80

Val Tyr Ser Cys Ala Ala Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr
 85 90 95

Leu Val Thr Val Ser Ser
 100

<210> 4
 <211> 102
 <212> PRT
 <213> Artificial Sequence

FIGURE 10 Continued...

<220>
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<220>
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<223> CDR

<220>
<221> misc_feature
<222> (50)..(54)
<223> CDR

<220>
<221> misc_feature
<222> (87)..(91)
<223> CDR

<400> 4

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Glu Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Ala Ser Glu Ser Pro Phe Arg Xaa Xaa
20 25 30

Xaa Xaa Xaa Trp Phe Arg Gln Thr Ser Gly Gln Glu Arg Glu Phe Val
35 40 45

Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Arg Asp Asp Ala Lys
50 55 60

Asn Thr Val Trp Leu His Gly Ser Thr Leu Lys Pro Glu Asp Thr Ala
65 70 75 80

Val Tyr Tyr Cys Ala Ala Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr
85 90 95

Gln Val Thr Val Ser Ser
100

<210> 5
<211> 102
<212> PRT
<213> Artificial Sequence

<220>
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<220>
<221> misc_feature
<222> (31)..(35)

FIGURE 10 Continued...

<223> CDR

<220>
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<222> (50)..(54)
<223> CDR

<220>
<221> misc_feature
<222> (87)..(91)
<223> CDR

<400> 5

Ala Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Gly Gly Gly
1 5 10 15

Ser Leu Arg Leu Ala Cys Ala Ala Ser Glu Arg Ile Phe Asp Xaa Xaa
20 25 30

Xaa Xaa Xaa Trp Tyr Arg Gln Gly Pro Gly Asn Glu Arg Glu Leu Val
35 40 45

Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Met Asp Tyr Thr Lys
50 55 60

Gln Thr Val Tyr Leu His Met Asn Ser Leu Arg Pro Glu Asp Thr Gly
65 70 75 80

Leu Tyr Tyr Cys Lys Ile Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr
85 90 95

Gln Val Thr Val Ser Ser
100

<210> 6
<211> 102
<212> PRT
<213> Artificial Sequence

<220>
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<221> misc_feature
<222> (50)..(54)
<223> CDR

FIGURE 10 Continued...

<220>
<221> misc_feature
<222> (87)..(91)
<223> CDR

<400> 6
Asp Val Lys Phe Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Asn Phe Asp Xaa Xaa
20 25 30
Xaa Xaa Xaa Trp Phe Arg Gln Ala Pro Gly Lys Glu Arg Glu Glu Val
35 40 45
Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Ser Glu Lys Asp Lys
50 55 60
Asn Ser Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ala
65 70 75 80
Leu Tyr Ile Cys Ala Gly Xaa Xaa Xaa Xaa Xaa Trp Gly Arg Gly Thr
85 90 95
Gln Val Thr Val Ser Ser
100

<210> 7
<211> 102
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<222> (50)..(54)
<223> CDR

<220>
<221> misc_feature
<222> (87)..(91)
<223> CDR

<400> 7

FIGURE 10 Continued...

Gln Val Arg Leu Ala Glu Ser Gly Gly Gly Leu Val Gln Ser Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Ser Thr Tyr Thr Xaa Xaa
 20 25 30

Xaa Xaa Xaa Trp Tyr Arg Gln Tyr Pro Gly Lys Gln Arg Ala Leu Val
 35 40 45

Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ala Arg Asp Ser Thr Lys
 50 55 60

Asp Thr Phe Cys Leu Gln Met Asn Asn Leu Lys Pro Glu Asp Thr Ala
 65 70 75 80

Val Tyr Tyr Cys Tyr Ala Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr
 85 90 95

Gln Val Thr Val Ser Ser
 100

<210> 8
 <211> 102
 <212> PRT
 <213> Artificial Sequence

<220>
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<220>
 <221> misc_feature
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<220>
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 <222> (50)..(54)
 <223> CDR

<220>
 <221> misc_feature
 <222> (87)..(91)
 <223> CDR

<400> 8

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Ser Asp Xaa Xaa
 20 25 30

Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Gly Asp Asn Ala Lys
50 55 60

FIGURE 10 Continued...

Arg Ala Ile Tyr Leu Gln Met Asn Asn Leu Lys Pro Asp Asp Thr Ala
65 70 75 80

Val Tyr Tyr Cys Asn Arg Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr
85 90 95

Gln Val Thr Val Ser Pro
100

<210> 10
<211> 102
<212> PRT
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<220>
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<220>
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<222> (31) .. (35)
<223> CDR

<220>
<221> misc_feature
<222> (50) .. (54)
<223> CDR

<220>
<221> misc_feature
<222> (87) .. (91)
<223> CDR

<400> 10

Gln Val Pro Val Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Asp
1 5 10 15

Ser Leu Arg Leu Phe Cys Ala Val Pro Ser Phe Thr Ser Thr Xaa Xaa
20 25 30

Xaa Xaa Xaa Trp Phe Arg Gln Ala Pro Gly Lys Glu Arg Glu Phe Val
35 40 45

Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Arg Asn Ala Thr Lys
50 55 60

Asn Thr Leu Thr Leu Arg Met Asp Ser Leu Lys Pro Glu Asp Thr Ala
65 70 75 80

Val Tyr Tyr Cys Ala Ala Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr

FIGURE 10 Continued...

	85	90	95

Gln Val Thr Val Ser Ser
100

<210> 11
<211> 102
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<220>
<221> misc_feature
<222> (50)..(54)
<223> CDR

<220>
<221> misc_feature
<222> (87)..(91)
<223> CDR

<400> 11

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Asp			
1	5	10	15

Ser Leu Arg Leu Phe Cys Thr Val Ser Gly Gly Thr Ala Ser Xaa Xaa			
20	25	30	

Xaa Xaa Xaa Trp Phe Arg Gln Ala Pro Gly Glu Lys Arg Glu Phe Val			
35	40	45	

Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ala Arg Glu Asn Ala Gly			
50	55	60	

Asn Met Val Tyr Leu Gln Met Asn Asn Leu Lys Pro Asp Asp Thr Ala			
65	70	75	80

Leu Tyr Thr Cys Ala Ala Xaa Xaa Xaa Xaa Xaa Trp Gly Arg Gly Thr			
85	90	95	

Gln Val Thr Val Ser Ser
100

FIGURE 10 Continued...

<210> 12
 <211> 102
 <212> PRT
 <213> Artificial Sequence

<220>
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<220>
 <221> misc_feature
 <222> (31)..(35)
 <223> CDR

<220>
 <221> misc_feature
 <222> (50)..(54)
 <223> CDR

<220>
 <221> misc_feature
 <222> (87)..(91)
 <223> CDR

<400> 12

Ala Val Gln Leu Val Glu Ser Gly Gly Asp Ser Val Gln Pro Gly Asp
 1 5 10 15

Ser Gln Thr Leu Ser Cys Ala Ala Ser Gly Arg Thr Asn Ser Xaa Xaa
 20 25 30

Xaa Xaa Xaa Trp Phe Arg Gln Ala Pro Gly Lys Glu Arg Val Phe Leu
 35 40 45

Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Arg Asp Ser Ala Lys
 50 55 60

Asn Met Met Tyr Leu Gln Met Asn Asn Leu Lys Pro Gln Asp Thr Ala
 65 70 75 80

Val Tyr Tyr Cys Ala Ala Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr
 85 90 95

Gln Val Thr Val Ser Ser
 100

<210> 13
 <211> 102
 <212> PRT
 <213> Artificial Sequence

<220>
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FIGURE 10 Continued...

<220>
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<222> (31)..(35)
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<220>
<221> misc_feature
<222> (50)..(54)
<223> CDR

<220>
<221> misc_feature
<222> (87)..(91)
<223> CDR

<400> 13

Ala Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Val Val Ser Gly Leu Thr Ser Ser Xaa Xaa
20 25 30

Xaa Xaa Xaa Trp Phe Arg Gln Thr Pro Trp Gln Glu Arg Asp Phe Val
35 40 45

Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Arg Asp Asn Tyr Lys
50 55 60

Asp Thr Val Leu Leu Glu Met Asn Phe Leu Lys Pro Glu Asp Thr Ala
65 70 75 80

Ile Tyr Tyr Cys Ala Ala Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr
85 90 95

Gln Val Thr Val Ser Ser
100

<210> 14
<211> 102
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody

<220>
<221> misc_feature
<222> (31)..(35)
<223> CDR

FIGURE 10 Continued...

<220>
<221> misc_feature
<222> (50)..(54)
<223> CDR

<220>
<221> misc_feature
<222> (87)..(91)
<223> CDR

<400> 14

Ala Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Ala
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Thr Ser Thr Arg Thr Leu Asp Xaa Xaa
20 25 30

Xaa Xaa Xaa Trp Phe Arg Gln Ala Pro Gly Arg Asp Arg Glu Phe Val
35 40 45

Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Val Ser Arg Asp Ser Ala Glu
50 55 60

Asn Thr Val Ala Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ala
65 70 75 80

Val Tyr Tyr Cys Ala Ala Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr
85 90 95

Arg Val Thr Val Ser Ser
100

<210> 15
<211> 102
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody

<220>
<221> misc_feature
<222> (31)..(35)
<223> CDR

<220>
<221> misc_feature
<222> (50)..(54)
<223> CDR

<220>
<221> misc_feature

FIGURE 10 Continued...

<222> (87)..(91)

<223> CDR

<400> 15

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Val Ser Arg Leu Thr Ala His Xaa Xaa
 20 25 30

Xaa Xaa Xaa Trp Phe Arg Gln Ala Pro Gly Lys Glu Arg Glu Ala Val
 35 40 45

Ser Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Arg Asp Tyr Ala Gly
 50 55 60

Asn Thr Ala Phe Leu Gln Met Asp Ser Leu Lys Pro Glu Asp Thr Gly
 65 70 75 80

Val Tyr Tyr Cys Ala Thr Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr
 85 90 95

Gln Val Thr Val Ser Ser
 100

<210> 16

<211> 102

<212> PRT

<213> Artificial Sequence

<220>

<223> KERE-class Nanobody

<220>

<221> misc_feature

<222> (31)..(35)

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<220>

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<222> (50)..(54)

<223> CDR

<220>

<221> misc_feature

<222> (87)..(91)

<223> CDR

<400> 16

Glu Val Gln Leu Val Glu Ser Gly Gly Glu Leu Val Gln Ala Gly Gly
 1 5 10 15

FIGURE 10 Continued...

Ser Leu Lys Leu Ser Cys Thr Ala Ser Gly Arg Asn Phe Val Xaa Xaa
20 25 30

Xaa Xaa Xaa Trp Phe Arg Arg Ala Pro Gly Lys Glu Arg Glu Phe Val
35 40 45

Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Val Ser Arg Asp Asn Gly Lys
50 55 60

Asn Thr Ala Tyr Leu Arg Met Asn Ser Leu Lys Pro Glu Asp Thr Ala
65 70 75 80

Asp Tyr Tyr Cys Ala Val Xaa Xaa Xaa Xaa Xaa Leu Gly Ser Gly Thr
85 90 95

Gln Val Thr Val Ser Ser
100

<210> 17
<211> 102
<212> PRT
<213> Artificial Sequence

<220>
<223> GLEW-class Nanobody

<220>
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<223> CDR

<220>
<221> misc_feature
<222> (50)..(54)
<223> CDR

<220>
<221> misc_feature
<222> (87)..(91)
<223> CDR

<400> 17

Ala Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Xaa Xaa
20 25 30

Xaa Xaa Xaa Trp Val Arg Gln Ala Pro Gly Lys Val Leu Glu Trp Val

FIGURE 10 Continued...

```

      35              40              45

Ser Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
  50              55              60

Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ala
  65              70              75              80

Val Tyr Tyr Cys Val Lys Xaa Xaa Xaa Xaa Xaa Gly Ser Gln Gly Thr
      85              90              95

Gln Val Thr Val Ser Ser
      100

<210> 18
<211> 102
<212> PRT
<213> Artificial Sequence

<220>
<223> GLEW-class Nanobody

<220>
<221> misc_feature
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<223> CDR

<220>
<221> misc_feature
<222> (50)..(54)
<223> CDR

<220>
<221> misc_feature
<222> (87)..(91)
<223> CDR

<400> 18

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1              5              10              15

Ser Leu Arg Leu Ser Cys Val Cys Val Ser Ser Gly Cys Thr Xaa Xaa
      20              25              30

Xaa Xaa Xaa Trp Val Arg Gln Ala Pro Gly Lys Ala Glu Glu Trp Val
      35              40              45

Ser Xaa Xaa Xaa Xaa Xaa Xaa Arg Phe Lys Ile Ser Arg Asp Asn Ala Lys
  50              55              60

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FIGURE 10 Continued...

Lys Thr Leu Tyr Leu Gln Met Asn Ser Leu Gly Pro Glu Asp Thr Ala
65 70 75 80

Met Tyr Tyr Cys Gln Arg Xaa Xaa Xaa Xaa Arg Gly Gln Gly Thr
85 90 95

Gln Val Thr Val Ser Ser
100

<210> 19
<211> 102
<212> PRT
<213> Artificial Sequence

<220>
<223> GLEW-class Nanobody

<220>
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<220>
<221> misc_feature
<222> (50)..(54)
<223> CDR

<220>
<221> misc_feature
<222> (87)..(91)
<223> CDR

<400> 19

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Ala Leu Pro Gly Gly
1 5 10 15

Ser Leu Thr Leu Ser Cys Val Phe Ser Gly Ser Thr Phe Ser Xaa Xaa
20 25 30

Xaa Xaa Xaa Trp Val Arg His Thr Pro Gly Lys Ala Glu Glu Trp Val
35 40 45

Ser Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
50 55 60

Asn Thr Leu Tyr Leu Glu Met Asn Ser Leu Ser Pro Glu Asp Thr Ala
65 70 75 80

Met Tyr Tyr Cys Gly Arg Xaa Xaa Xaa Xaa Arg Ser Lys Gly Ile
85 90 95

FIGURE 10 Continued...

Gln Val Thr Val Ser Ser
100

<210> 20
<211> 102
<212> PRT
<213> Artificial Sequence

<220>
<223> P,R,S 103-class Nanobody

<220>
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<222> (31)..(35)
<223> CDR

<220>
<221> misc_feature
<222> (50)..(54)
<223> CDR

<220>
<221> misc_feature
<222> (87)..(91)
<223> CDR

<400> 20

Ala Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Thr Phe Ser Xaa Xaa
20 25 30

Xaa Xaa Xaa Trp Phe Arg Gln Ala Pro Gly Lys Glu Arg Glu Phe Val
35 40 45

Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
50 55 60

Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ala
65 70 75 80

Val Tyr Tyr Cys Ala Ala Xaa Xaa Xaa Xaa Xaa Arg Gly Gln Gly Thr
85 90 95

Gln Val Thr Val Ser Ser
100

<210> 21
<211> 102

FIGURE 10 Continued...

<212> PRT
 <213> Artificial Sequence

<220>
 <223> P,R,S 103-class Nanobody

<220>
 <221> misc_feature
 <222> (31)..(35)
 <223> CDR

<220>
 <221> misc_feature
 <222> (50)..(54)
 <223> CDR

<220>
 <221> misc_feature
 <222> (87)..(91)
 <223> CDR

<400> 21

Asp Val Gln Leu Val Glu Ser Gly Gly Asp Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Asp Xaa Xaa
 20 25 30

Xaa Xaa Xaa Trp Leu Arg Gln Thr Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Gly Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
 50 55 60

Asn Met Leu Tyr Leu His Leu Asn Asn Leu Lys Ser Glu Asp Thr Ala
 65 70 75 80

Val Tyr Tyr Cys Arg Arg Xaa Xaa Xaa Xaa Xaa Leu Gly Gln Gly Thr
 85 90 95

Gln Val Thr Val Ser Ser
 100

<210> 22
 <211> 102
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> P,R,S 103-class Nanobody

FIGURE 10 Continued...

<220>

<221> misc_feature

<222> (31)..(35)

<223> CDR

<220>

<221> misc_feature

<222> (50)..(54)

<223> CDR

<220>

<221> misc_feature

<222> (87)..(91)

<223> CDR

<400> 22

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Val Cys Val Ser Ser Gly Cys Thr Xaa Xaa
 20 25 30

Xaa Xaa Xaa Trp Val Arg Gln Ala Pro Gly Lys Ala Glu Glu Trp Val
 35 40 45

Ser Xaa Xaa Xaa Xaa Xaa Arg Phe Lys Ile Ser Arg Asp Asn Ala Lys
 50 55 60

Lys Thr Leu Tyr Leu Gln Met Asn Ser Leu Gly Pro Glu Asp Thr Ala
 65 70 75 80

Met Tyr Tyr Cys Gln Arg Xaa Xaa Xaa Xaa Xaa Arg Gly Gln Gly Thr
 85 90 95

Gln Val Thr Val Ser Ser
 100

<210> 23

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> KERE-class Nanobody FW1 sequence

<400> 23

Gln Val Gln Arg Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Thr Ser Ser
 20 25 30

FIGURE 10 Continued...

<210> 24
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> KERE-class Nanobody FW1 sequence

<400> 24

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Thr Gly Asp
 1 5 10 15

Ser Leu Ser Leu Ser Cys Ser Ala Ser Gly Arg Thr Phe Ser
 20 25 30

<210> 25
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> KERE-class Nanobody FW1 sequence

<400> 25

Gln Val Lys Leu Glu Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Asp
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Thr Gly Arg Ala Phe Gly
 20 25 30

<210> 26
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> KERE-class Nanobody FW1 sequence

<400> 26

Ala Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Glu
 1 5 10 15

Ser Leu Gly Leu Ser Cys Val Ala Ser Gly Arg Asp Phe Val
 20 25 30

<210> 27
 <211> 30
 <212> PRT
 <213> Artificial Sequence

FIGURE 10 Continued...

<220>

<223> KERE-class Nanobody FW1 sequence

<400> 27

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Glu Val Leu Gly Arg Thr Ala Gly
20 25 30

<210> 28

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> KERE-class Nanobody FW1 sequence

<400> 28

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Trp Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Glu Thr Ile Leu Ser
20 25 30

<210> 29

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> KERE-class Nanobody FW1 sequence

<400> 29

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Thr Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Asn Leu Ser Cys Val Ala Ser Gly Asn Thr Phe Asn
20 25 30

<210> 30

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> KERE-class Nanobody FW1 sequence

<400> 30

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Ala Gln Pro Gly Gly
1 5 10 15

FIGURE 10 Continued...

Ser Leu Gln Leu Ser Cys Ser Ala Pro Gly Phe Thr Leu Asp
20 25 30

<210> 31
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW1 sequence

<400> 31

Ala Gln Glu Leu Glu Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Thr Phe Asn
20 25 30

<210> 32
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW1 sequence

<400> 32

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu
1 5 10 15

Ser Cys Ala Ala Ser Gly
20

<210> 33
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW1 sequence

<400> 33

Val Asp Ser Gly Gly Gly Leu Val Gln Ala Gly Asp Ser Leu Lys Leu
1 5 10 15

Ser Cys Ala Leu Thr Gly
20

<210> 34

FIGURE 10 Continued...

<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW1 sequence

<400> 34

Val Asp Ser Gly Gly Gly Leu Val Gln Ala Gly Asp Ser Leu Arg Leu
1 5 10 15

Ser Cys Ala Ala Ser Gly
20

<210> 35
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW1 sequence

<400> 35

Val Asp Ser Gly Gly Gly Leu Val Glu Ala Gly Gly Ser Leu Arg Leu
1 5 10 15

Ser Cys Gln Val Ser Glu
20

<210> 36
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW1 sequence

<400> 36

Gln Asp Ser Gly Gly Gly Ser Val Gln Ala Gly Gly Ser Leu Lys Leu
1 5 10 15

Ser Cys Ala Ala Ser Gly
20

<210> 37
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW1 sequence

FIGURE 10 Continued...

<400> 37

Val Gln Ser Gly Gly Arg Leu Val Gln Ala Gly Asp Ser Leu Arg Leu
1 5 10 15

Ser Cys Ala Ala Ser Glu
20

<210> 38

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> KERE-class Nanobody FW1 sequence

<400> 38

Val Glu Ser Gly Gly Thr Leu Val Gln Ser Gly Asp Ser Leu Lys Leu
1 5 10 15

Ser Cys Ala Ser Ser Thr
20

<210> 39

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> KERE-class Nanobody FW1 sequence

<400> 39

Met Glu Ser Gly Gly Asp Ser Val Gln Ser Gly Gly Ser Leu Thr Leu
1 5 10 15

Ser Cys Val Ala Ser Gly
20

<210> 40

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> KERE-class Nanobody FW1 sequence

<400> 40

Gln Ala Ser Gly Gly Gly Leu Val Gln Ala Gly Gly Ser Leu Arg Leu
1 5 10 15

Ser Cys Ser Ala Ser Val

FIGURE 10 Continued...

20

<210> 41
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW2 sequence

<400> 41

Trp Phe Arg Gln Ala Pro Gly Lys Glu Arg Glu Phe Val Ala
1 5 10

<210> 42
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW2 sequence

<400> 42

Trp Phe Arg Gln Thr Pro Gly Arg Glu Arg Glu Phe Val Ala
1 5 10

<210> 43
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW2 sequence

<400> 43

Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Met Val Ala
1 5 10

<210> 44
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW2 sequence

<400> 44

Trp Tyr Arg Gln Gly Pro Gly Lys Gln Arg Glu Leu Val Ala
1 5 10

<210> 45
<211> 14

FIGURE 10 Continued...

<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW2 sequence

<400> 45

Trp Ile Arg Gln Ala Pro Gly Lys Glu Arg Glu Gly Val Ser
1 5 10

<210> 46
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW2 sequence

<400> 46

Trp Phe Arg Glu Ala Pro Gly Lys Glu Arg Glu Gly Ile Ser
1 5 10

<210> 47
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW2 sequence

<400> 47

Trp Tyr Arg Gln Ala Pro Gly Lys Glu Arg Asp Leu Val Ala
1 5 10

<210> 48
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW2 sequence

<400> 48

Trp Phe Arg Gln Ala Pro Gly Lys Gln Arg Glu Glu Val Ser
1 5 10

<210> 49
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW2 sequence

FIGURE 10 Continued...

<400> 49

Trp Phe Arg Gln Pro Pro Gly Lys Val Arg Glu Phe Val Gly
1 5 10

<210> 50

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> KERE-class Nanobody FW3 sequence

<400> 50

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Arg Cys Tyr Phe
20 25 30

<210> 51

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> KERE-class Nanobody FW3 sequence

<400> 51

Arg Phe Ala Ile Ser Arg Asp Asn Asn Lys Asn Thr Gly Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Glu Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala Ala
20 25 30

<210> 52

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> KERE-class Nanobody FW3 sequence

<400> 52

Arg Phe Thr Val Ala Arg Asn Asn Ala Lys Asn Thr Val Asn Leu Glu
1 5 10 15

Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala Ala
20 25 30

FIGURE 10 Continued...

<210> 53
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW3 sequence

<400> 53

Arg Phe Thr Ile Ser Arg Asp Ile Ala Lys Asn Thr Val Asp Leu Leu
1 5 10 15

Met Asn Asn Leu Glu Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala Ala
20 25 30

<210> 54
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW3 sequence

<400> 54

Arg Leu Thr Ile Ser Arg Asp Asn Ala Val Asp Thr Met Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala Ala
20 25 30

<210> 55
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW3 sequence

<400> 55

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu Gln
1 5 10 15

Met Asp Asn Val Lys Pro Glu Asp Thr Ala Ile Tyr Tyr Cys Ala Ala
20 25 30

<210> 56
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW3 sequence

FIGURE 10 Continued...

<400> 56

Arg Phe Thr Ile Ser Lys Asp Ser Gly Lys Asn Thr Val Tyr Leu Gln
1 5 10 15

Met Thr Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala Thr
20 25 30

<210> 57

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> KERE-class Nanobody FW3 sequence

<400> 57

Arg Phe Thr Ile Ser Arg Asp Ser Ala Lys Asn Met Met Tyr Leu Gln
1 5 10 15

Met Asn Asn Leu Lys Pro Gln Asp Thr Ala Val Tyr Tyr Cys Ala Ala
20 25 30

<210> 58

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> KERE-class Nanobody FW3 sequence

<400> 58

Arg Phe Thr Ile Ser Arg Glu Asn Asp Lys Ser Thr Val Tyr Leu Gln
1 5 10 15

Leu Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala Ala
20 25 30

<210> 59

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> KERE-class Nanobody FW3 sequence

<400> 59

Arg Phe Thr Ile Ser Arg Asp Tyr Ala Gly Asn Thr Ala Tyr Leu Gln
1 5 10 15

FIGURE 10 Continued...

Met Asn Ser Leu Lys Pro Glu Asp Thr Gly Val Tyr Tyr Cys Ala Thr
20 25 30

<210> 60
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW4 sequence

<400> 60

Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser
1 5 10

<210> 61
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW4 sequence

<400> 61

Trp Gly Lys Gly Thr Leu Val Thr Val Ser Ser
1 5 10

<210> 62
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW4 sequence

<400> 62

Arg Gly Gln Gly Thr Arg Val Thr Val Ser Ser
1 5 10

<210> 63
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW4 sequence

<400> 63

Trp Gly Leu Gly Thr Gln Val Thr Ile Ser Ser
1 5 10

<210> 64

FIGURE 10 Continued...

<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> GLEW-class Nanobody FW1 sequence

<400> 64

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
20 25 30

<210> 65
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> GLEW-class Nanobody FW1 sequence

<400> 65

Glu Val His Leu Val Glu Ser Gly Gly Gly Leu Val Arg Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Phe Gly Phe Ile Phe Lys
20 25 30

<210> 66
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> GLEW-class Nanobody FW1 sequence

<400> 66

Gln Val Lys Leu Glu Glu Ser Gly Gly Gly Leu Ala Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser
20 25 30

<210> 67
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> GLEW-class Nanobody FW1 sequence

FIGURE 10 Continued...

<400> 67

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Val Cys Val Ser Ser Gly Cys Thr
20 25 30

<210> 68

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> GLEW-class Nanobody FW1 sequence

<400> 68

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Ala Leu Pro Gly Gly
1 5 10 15

Ser Leu Thr Leu Ser Cys Val Phe Ser Gly Ser Thr Phe Ser
20 25 30

<210> 69

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> GLEW-class Nanobody FW1 sequence

<400> 69

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu
1 5 10 15

Ser Cys Ala Ala Ser Gly
20

<210> 70

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> GLEW-class Nanobody FW1 sequence

<400> 70

Glu Glu Ser Gly Gly Gly Leu Ala Gln Pro Gly Gly Ser Leu Arg Leu
1 5 10 15

Ser Cys Val Ala Ser Gly

FIGURE 10 Continued...

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<210> 71
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> GLEW-class Nanobody FW1 sequence

<400> 71

Val Glu Ser Gly Gly Gly Leu Ala Leu Pro Gly Gly Ser Leu Thr Leu
1 5 10 15

Ser Cys Val Phe Ser Gly
20

<210> 72
<211> 14
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<213> Artificial Sequence

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<223> GLEW-class Nanobody FW2 sequence

<400> 72

Trp Val Arg Gln Ala Pro Gly Lys Val Leu Glu Trp Val Ser
1 5 10

<210> 73
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> GLEW-class Nanobody FW2 sequence

<400> 73

Trp Val Arg Arg Pro Pro Gly Lys Gly Leu Glu Trp Val Ser
1 5 10

<210> 74
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> GLEW-class Nanobody FW2 sequence

<400> 74

Trp Val Arg Gln Ala Pro Gly Met Gly Leu Glu Trp Val Ser
1 5 10

FIGURE 10 Continued...

<210> 75
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> GLEW-class Nanobody FW2 sequence

<400> 75

Trp Val Arg Gln Ala Pro Gly Lys Glu Pro Glu Trp Val Ser
1 5 10

<210> 76
<211> 14
<212> PRT
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<220>
<223> GLEW-class Nanobody FW2 sequence

<400> 76

Trp Val Arg Gln Ala Pro Gly Lys Asp Gln Glu Trp Val Ser
1 5 10

<210> 77
<211> 14
<212> PRT
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<220>
<223> GLEW-class Nanobody FW2 sequence

<400> 77

Trp Val Arg Gln Ala Pro Gly Lys Ala Glu Glu Trp Val Ser
1 5 10

<210> 78
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
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<400> 78

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
1 5 10

<210> 79
<211> 14
<212> PRT

FIGURE 10 Continued...

<213> Artificial Sequence

<220>

<223> GLEW-class Nanobody FW2 sequence

<400> 79

Trp Val Arg Gln Ala Pro Gly Arg Ala Thr Glu Trp Val Ser
1 5 10

<210> 80

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> GLEW-class Nanobody FW3 sequence

<400> 80

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Val Lys
20 25 30

<210> 81

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> GLEW-class Nanobody FW3 sequence

<400> 81

Arg Phe Thr Ile Ser Arg Asp Asn Ala Arg Asn Thr Leu Tyr Leu Gln
1 5 10 15

Met Asp Ser Leu Ile Pro Glu Asp Thr Ala Leu Tyr Tyr Cys Ala Arg
20 25 30

<210> 82

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> GLEW-class Nanobody FW3 sequence

<400> 82

Arg Phe Thr Ser Ser Arg Asp Asn Ala Lys Ser Thr Leu Tyr Leu Gln
1 5 10 15

FIGURE 10 Continued...

Met Asn Asp Leu Lys Pro Glu Asp Thr Ala Leu Tyr Tyr Cys Ala Arg
 20 25 30

<210> 83
 <211> 32
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> GLEW-class Nanobody FW3 sequence

<400> 83

Arg Phe Ile Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr Leu Gln
 1 5 10 15

Met Asn Ser Leu Gly Pro Glu Asp Thr Ala Met Tyr Tyr Cys Gln Arg
 20 25 30

<210> 84
 <211> 32
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> GLEW-class Nanobody FW3 sequence

<400> 84

Arg Phe Thr Ala Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr Leu Gln
 1 5 10 15

Met Asn Ser Leu Lys Ser Glu Asp Thr Ala Arg Tyr Tyr Cys Ala Arg
 20 25 30

<210> 85
 <211> 32
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> GLEW-class Nanobody FW3 sequence

<400> 85

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr Leu Gln
 1 5 10 15

Met Asp Asp Leu Gln Ser Glu Asp Thr Ala Met Tyr Tyr Cys Gly Arg
 20 25 30

<210> 86
 <211> 11
 <212> PRT

FIGURE 10 Continued...

<213> Artificial Sequence

<220>

<223> GLEW-class Nanobody FW4 sequence

<400> 86

Gly Ser Gln Gly Thr Gln Val Thr Val Ser Ser
1 5 10

<210> 87

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> GLEW-class Nanobody FW4 sequence

<400> 87

Leu Arg Gly Gly Thr Gln Val Thr Val Ser Ser
1 5 10

<210> 88

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> GLEW-class Nanobody FW4 sequence

<400> 88

Arg Gly Gln Gly Thr Leu Val Thr Val Ser Ser
1 5 10

<210> 89

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> GLEW-class Nanobody FW4 sequence

<400> 89

Arg Ser Arg Gly Ile Gln Val Thr Val Ser Ser
1 5 10

<210> 90

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> GLEW-class Nanobody FW4 sequence

FIGURE 10 Continued...

<400> 90

Trp Gly Lys Gly Thr Gln Val Thr Val Ser Ser
1 5 10

<210> 91

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> GLEW-class Nanobody FW4 sequence

<400> 91

Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser
1 5 10

<210> 92

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> P,R,S 103-class Nanobody FW1 sequence

<400> 92

Ala Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Thr Phe Ser
20 25 30

<210> 93

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> P,R,S 103-class Nanobody FW1 sequence

<400> 93

Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Met Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asp Phe Gly
20 25 30

<210> 94

<211> 30

<212> PRT

<213> Artificial Sequence

FIGURE 10 Continued...

<220>

<223> P,R,S 103-class Nanobody FW1 sequence

<400> 94

Glu Val His Leu Val Glu Ser Gly Gly Gly Leu Val Arg Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Phe Gly Phe Ile Phe Lys
20 25 30

<210> 95

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> P,R,S 103-class Nanobody FW1 sequence

<400> 95

Gln Val Gln Leu Ala Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Lys Leu Ser Cys Ala Ala Ser Arg Thr Ile Val Ser
20 25 30

<210> 96

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> P,R,S 103-class Nanobody FW1 sequence

<400> 96

Gln Glu His Leu Val Glu Ser Gly Gly Gly Leu Val Asp Ile Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Glu Arg Ile Phe Ser
20 25 30

<210> 97

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> P,R,S 103-class Nanobody FW1 sequence

<400> 97

Gln Val Lys Leu Glu Glu Ser Gly Gly Gly Leu Ala Gln Pro Gly Gly
1 5 10 15

FIGURE 10 Continued...

Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser
20 25 30

<210> 98
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> P,R,S 103-class Nanobody FW1 sequence

<400> 98

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Val Cys Val Ser Ser Gly Cys Thr
20 25 30

<210> 99
<211> 30
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<213> Artificial Sequence

<220>
<223> P,R,S 103-class Nanobody FW1 sequence

<400> 99

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Ala Leu Pro Gly Gly
1 5 10 15

Ser Leu Thr Leu Ser Cys Val Phe Ser Gly Ser Thr Phe Ser
20 25 30

<210> 100
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> P,R,S 103-class Nanobody FW1 sequence

<400> 100

Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly Ser Leu Arg Leu
1 5 10 15

Ser Cys Ala Ala Ser Gly
20

<210> 101

FIGURE 10 Continued...

<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> P,R,S 103-class Nanobody FW1 sequence

<400> 101

Ala Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Lys Leu
1 5 10 15

Ser Cys Ala Ala Ser Arg
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<210> 102
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> P,R,S 103-class Nanobody FW2 sequence

<400> 102

Trp Phe Arg Gln Ala Pro Gly Lys Glu Arg Glu Phe Val Ala
1 5 10

<210> 103
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> P,R,S 103-class Nanobody FW2 sequence

<400> 103

Trp Val Arg Gln Ala Pro Gly Lys Val Leu Glu Trp Val Ser
1 5 10

<210> 104
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> P,R,S 103-class Nanobody FW2 sequence

<400> 104

Trp Val Arg Arg Pro Pro Gly Lys Gly Leu Glu Trp Val Ser
1 5 10

<210> 105
<211> 14

FIGURE 10 Continued...

<212> PRT
<213> Artificial Sequence

<220>
<223> P,R,S 103-class Nanobody FW2 sequence

<400> 105

Trp Ile Arg Gln Ala Pro Gly Lys Glu Arg Glu Gly Val Ser
1 5 10

<210> 106
<211> 14
<212> PRT
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<400> 106

Trp Val Arg Gln Tyr Pro Gly Lys Glu Pro Glu Trp Val Ser
1 5 10

<210> 107
<211> 14
<212> PRT
<213> Artificial Sequence

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<223> P,R,S 103-class Nanobody FW2 sequence

<400> 107

Trp Phe Arg Gln Pro Pro Gly Lys Glu His Glu Phe Val Ala
1 5 10

<210> 108
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> P,R,S 103-class Nanobody FW2 sequence

<400> 108

Trp Tyr Arg Gln Ala Pro Gly Lys Arg Thr Glu Leu Val Ala
1 5 10

<210> 109
<211> 14
<212> PRT
<213> Artificial Sequence

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FIGURE 10 Continued...

<400> 109

Trp Leu Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Val Ser
1 5 10

<210> 110

<211> 14

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<213> Artificial Sequence

<220>

<223> P,R,S 103-class Nanobody FW2 sequence

<400> 110

Trp Leu Arg Gln Thr Pro Gly Lys Gly Leu Glu Trp Val Gly
1 5 10

<210> 111

<211> 14

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<223> P,R,S 103-class Nanobody FW2 sequence

<400> 111

Trp Val Arg Gln Ala Pro Gly Lys Ala Glu Glu Phe Val Ser
1 5 10

<210> 112

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> P,R,S 103-class Nanobody FW3 sequence

<400> 112

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala Ala
20 25 30

<210> 113

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> P,R,S 103-class Nanobody FW3 sequence

FIGURE 10 Continued...

<400> 113

Arg Phe Thr Ile Ser Arg Asp Asn Ala Arg Asn Thr Leu Tyr Leu Gln
1 5 10 15

Met Asp Ser Leu Ile Pro Glu Asp Thr Ala Leu Tyr Tyr Cys Ala Arg
20 25 30

<210> 114

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> P,R,S 103-class Nanobody FW3 sequence

<400> 114

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Glu Met Tyr Leu Gln
1 5 10 15

Met Asn Asn Leu Lys Thr Glu Asp Thr Gly Val Tyr Trp Cys Gly Ala
20 25 30

<210> 115

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> P,R,S 103-class Nanobody FW3 sequence

<400> 115

Arg Phe Thr Ile Ser Ser Asp Ser Asn Arg Asn Met Ile Tyr Leu Gln
1 5 10 15

Met Asn Asn Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala Ala
20 25 30

<210> 116

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> P,R,S 103-class Nanobody FW3 sequence

<400> 116

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Met Leu Tyr Leu His
1 5 10 15

Leu Asn Asn Leu Lys Ser Glu Asp Thr Ala Val Tyr Tyr Cys Arg Arg

FIGURE 10 Continued...

	20	25	30
<210>	117		
<211>	32		
<212>	PRT		
<213>	Artificial Sequence		
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<223>	P,R,S 103-class Nanobody FW3 sequence		
<400>	117		
Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Lys Thr Val Tyr Leu Arg			
1	5	10	15
Leu Asn Ser Leu Asn Pro Glu Asp Thr Ala Val Tyr Ser Cys Asn Leu			
	20	25	30
<210>	118		
<211>	32		
<212>	PRT		
<213>	Artificial Sequence		
<220>			
<223>	P,R,S 103-class Nanobody FW3 sequence		
<400>	118		
Arg Phe Lys Ile Ser Arg Asp Asn Ala Lys Lys Thr Leu Tyr Leu Gln			
1	5	10	15
Met Asn Ser Leu Gly Pro Glu Asp Thr Ala Met Tyr Tyr Cys Gln Arg			
	20	25	30
<210>	119		
<211>	32		
<212>	PRT		
<213>	Artificial Sequence		
<220>			
<223>	P,R,S 103-class Nanobody FW3 sequence		
<400>	119		
Arg Phe Thr Val Ser Arg Asp Asn Gly Lys Asn Thr Ala Tyr Leu Arg			
1	5	10	15
Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Asp Tyr Tyr Cys Ala Val			
	20	25	30
<210>	120		
<211>	11		
<212>	PRT		
<213>	Artificial Sequence		

FIGURE 10 Continued...

<220>
<223> P,R,S 103-class Nanobody FW4 sequence

<400> 120

Arg	Gly	Gln	Gly	Thr	Gln	Val	Thr	Val	Ser	Ser
1				5					10	

<210> 121
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> P,R,S 103-class Nanobody FW4 sequence

<400> 121

Leu	Arg	Gly	Gly	Thr	Gln	Val	Thr	Val	Ser	Ser
1				5					10	

<210> 122
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> P,R,S 103-class Nanobody FW4 sequence

<400> 122

Gly	Asn	Lys	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser
1				5					10	

<210> 123
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> P,R,S 103-class Nanobody FW4 sequence

<400> 123

Ser	Ser	Pro	Gly	Thr	Gln	Val	Thr	Val	Ser	Ser
1				5					10	

<210> 124
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> P,R,S 103-class Nanobody FW4 sequence

<400> 124

FIGURE 10 Continued...

Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser
1 5 10

<210> 125

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> P,R,S 103-class Nanobody FW4 sequence

<400> 125

Arg Ser Arg Gly Ile Gln Val Thr Val Ser Ser
1 5 10

<210> 126

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> FR1 sequence

<400> 126

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser
20 25 30

<210> 127

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> FR1 sequence

<400> 127

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Asp
1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Ala Thr Gly Arg Thr Ser Ser
20 25 30

<210> 128

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

FIGURE 10 Continued...

<223> FR1 sequence

<400> 128

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Thr Ser Gly Phe Thr Phe Ser
20 25 30

<210> 129

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> FR1 sequence

<400> 129

Lys Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Thr Phe Ser
20 25 30

<210> 130

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> FR1 sequence

<400> 130

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Asp
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Thr Gly Arg Thr Ser Ser
20 25 30

<210> 131

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> FR1 sequence

<400> 131

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

FIGURE 10 Continued...

Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Arg Thr Leu Arg
 20 25 30

<210> 132
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> FR1 sequence

<400> 132

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
 1 5 10 15

Ser Leu Arg Leu Thr Cys Ala Ala Ser Gly Arg Thr Phe Ser
 20 25 30

<210> 133
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> FR1 sequence

<400> 133

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Leu Thr Phe Asn
 20 25 30

<210> 134
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> FR1 sequence

<400> 134

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Asp
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Thr Gly Arg Thr Ser Ser
 20 25 30

<210> 135
 <211> 5

FIGURE 10 Continued...

<212> PRT
<213> Artificial Sequence

<220>
<223> CDR sequence

<400> 135

Asp Asn Val Met Gly
1 5

<210> 136
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR sequence

<400> 136

Ile Tyr Asn Met Asp
1 5

<210> 137
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR sequence

<400> 137

Arg Phe Asp Met Ser
1 5

<210> 138
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR sequence

<400> 138

Ser Tyr Phe Met Gly
1 5

<210> 139
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR sequence

FIGURE 10 Continued...

<400> 139

Ile Tyr Asn Met Asp
1 5

<210> 140

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> CDR sequence

<400> 140

Arg Tyr Val Thr Gly
1 5

<210> 141

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> CDR sequence

<400> 141

Ser Phe Val Ile Gly
1 5

<210> 142

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> CDR sequence

<400> 142

Gln Tyr Thr Ile Thr
1 5

<210> 143

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> CDR sequence

<400> 143

Ile Tyr Asn Met Asp
1 5

FIGURE 10 Continued...

<210> 144
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> FR2 sequence

<400> 144

Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val Ala
1 5 10

<210> 145
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> FR2 sequence

<400> 145

Trp Phe Arg Gln Thr Pro Gly Lys Glu Arg Glu Leu Ile Ala
1 5 10

<210> 146
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> FR2 sequence

<400> 146

Trp Phe Arg Gln Ala Pro Gly Lys Gln Arg Glu Phe Ile Ala
1 5 10

<210> 147
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> FR2 sequence

<400> 147

Trp Phe Arg Gln Ala Pro Gly Lys Glu Arg Glu Val Val Ala
1 5 10

<210> 148
<211> 14
<212> PRT

FIGURE 10 Continued...

<213> Artificial Sequence

<220>

<223> FR2 sequence

<400> 148

Trp	Phe	Leu	Gln	Ala	Pro	Gly	Lys	Glu	Arg	Glu	Leu	Ile	Ala
1				5					10				

<210> 149

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> FR2 sequence

<400> 149

Trp	Phe	Arg	Gln	Ala	Pro	Gly	Lys	Glu	Arg	Glu	Val	Val	Ala
1				5					10				

<210> 150

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> FR2 sequence

<400> 150

Trp	Phe	Arg	Gln	Ala	Pro	Gly	Lys	Gln	Arg	Glu	Val	Val	Ala
1				5					10				

<210> 151

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> FR2 sequence

<400> 151

Trp	Phe	Arg	Gln	Ala	Pro	Gly	Lys	Glu	Arg	Glu	Phe	Val	Ala
1				5					10				

<210> 152

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> FR2 sequence

FIGURE 10 Continued...

<400> 152

Trp Phe Arg Gln Gly Ser Gly Lys Gly Arg Glu Leu Ile Ala
1 5 10

<210> 153

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> CDR sequence

<400> 153

Thr Ile Trp Ser Ser Gly His Thr Asn Tyr Ala Asp Ser Val Lys Gly
1 5 10 15

<210> 154

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> CDR sequence

<400> 154

Arg Leu Trp Trp Arg Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 155

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> CDR sequence

<400> 155

Thr Ile Phe Ser Gly Gly Asp Thr Asp Tyr Ile Asp Ser Val Lys Gly
1 5 10 15

<210> 156

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> CDR sequence

<400> 156

FIGURE 10 Continued...

Thr Ile Arg Trp Ser Asp Gly Ser Thr Tyr Tyr Glu Asp Ser Val Lys
1 5 10 15

Gly

<210> 157
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR sequence

<400> 157

Arg Ile Trp Trp Arg Ser Gly Ala Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 158
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR sequence

<400> 158

Ser Ile Ser Trp Ser Gly Glu Ser Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 159
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR sequence

<400> 159

Ser Ile Thr Ser Gly Gly Ser Thr Tyr Tyr Glu Asp Ser Gly Lys Gly
1 5 10 15

<210> 160
<211> 17

FIGURE 10 Continued...

<212> PRT
<213> Artificial Sequence

<220>
<223> CDR sequence

<400> 160

Ala Val Ser Trp Ser Gly Ser Ser Glu Ser Val Ser Asn Ser Val Lys
1 5 10 15

Gly

<210> 161
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR sequence

<400> 161

Arg Ile Trp Trp Arg Ser Gly Glu Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 162
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> FR3 sequence

<400> 162

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Asn Leu
20 25 30

<210> 163
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> FR3 sequence

<400> 163

FIGURE 10 Continued...

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Lys Pro Glu Asp Thr Ser Val Tyr Ile Cys Thr Ala
20 25 30

<210> 164
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> FR3 sequence

<400> 164

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Cys Pro
20 25 30

<210> 165
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> FR3 sequence

<400> 165

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala Ala
20 25 30

<210> 166
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> FR3 sequence

<400> 166

Arg Phe Thr Ile Ser Arg Gly Asn Ala Lys Asn Thr Val Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Lys Pro Glu Asp Thr Gly Val Tyr His Cys Thr Ala
20 25 30

FIGURE 10 Continued...

<210> 167
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> FR3 sequence

<400> 167

Arg Phe Ala Ile Ser Arg Asp Asn Ala Lys Asn Ala Val Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Asn Leu Glu Asp Thr Gly Val Tyr Tyr Cys Ala Glu
20 25 30

<210> 168
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> FR3 sequence

<400> 168

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Arg Val Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala Ala
20 25 30

<210> 169
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> FR3 sequence

<400> 169

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Ala Tyr Leu Ala
1 5 10 15

Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala Ala
20 25 30

<210> 170
<211> 32
<212> PRT
<213> Artificial Sequence

FIGURE 10 Continued...

<220>

<223> FR3 sequence

<400> 170

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Lys Pro Glu Asp Thr Asn Val Tyr His Cys Ala Ala
20 25 30

<210> 171

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> CDR sequence

<400> 171

Gly Thr Ile Val Thr Gly Thr Trp Arg Ser Asp Tyr
1 5 10

<210> 172

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> CDR sequence

<400> 172

Gly Asp Thr Gly Gly Ala Ala Tyr Gly Tyr
1 5 10

<210> 173

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> CDR sequence

<400> 173

Leu Gly Ile Glu Tyr Ala
1 5

<210> 174

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

FIGURE 10 Continued...

<223> CDR sequence

<400> 174

Ala Lys Gly Ile Gly Val Tyr Gly Tyr
1 5

<210> 175

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> CDR sequence

<400> 175

Gly Val Thr Gly Gly Ala Ala Tyr Gly Tyr
1 5 10

<210> 176

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> CDR sequence

<400> 176

Ala Glu Leu Pro Gly Thr Tyr Asp Tyr
1 5

<210> 177

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> CDR sequence

<400> 177

Ala Glu Pro Ala Gly Val Tyr Asp Val
1 5

<210> 178

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> CDR sequence

<400> 178

Asp Arg Arg Gly Leu Ala Ser Thr Arg Ala Ala Asp Tyr Asp Tyr

FIGURE 10 Continued...

1 5 10 15

<210> 179
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR sequence

<400> 179

Gly Asp Thr Gly Gly Ala Ser Tyr Gly Tyr
1 5 10

<210> 180
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> FR4 sequence

<400> 180

Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser
1 5 10

<210> 181
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> FR4 sequence

<400> 181

Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser
1 5 10

<210> 182
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> FR4 sequence

<400> 182

Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser
1 5 10

<210> 183
<211> 11

FIGURE 10 Continued...

<212> PRT
<213> Artificial Sequence

<220>
<223> FR4 sequence

<400> 183

Trp	Gly	Gln	Gly	Thr	Gln	Val	Thr	Val	Ser	Ser
1				5					10	

<210> 184
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> FR4 sequence

<400> 184

Trp	Gly	Gln	Gly	Thr	Gln	Val	Thr	Val	Ser	Ser
1				5					10	

<210> 185
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> FR4 sequence

<400> 185

Trp	Gly	Gln	Gly	Thr	Gln	Val	Thr	Val	Ser	Ser
1				5					10	

<210> 186
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> FR4 sequence

<400> 186

Trp	Gly	Gln	Gly	Thr	Gln	Val	Thr	Val	Ser	Ser
1				5					10	

<210> 187
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> FR4 sequence

FIGURE 10 Continued...

<400> 187

Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser
 1 5 10

<210> 188

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> FR4 sequence

<400> 188

Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser
 1 5 10

<210> 189

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> Nanobody

<400> 189

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Asp Asn
 20 25 30

Val Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
 35 40 45

Ala Thr Ile Trp Ser Ser Gly His Thr Asn Tyr Ala Asp Ser Val Lys
 50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu
 65 70 75 80

Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Asn
 85 90 95

Leu Gly Thr Ile Val Thr Gly Thr Trp Arg Ser Asp Tyr Trp Gly Gln
 100 105 110

Gly Thr Gln Val Thr Val Ser Ser
 115 120

FIGURE 10 Continued...

<210> 190
 <211> 119
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Nanobody

<400> 190

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Asp
 1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Ala Thr Gly Arg Thr Ser Ser Ile Tyr
 20 25 30

Asn Met Asp Trp Phe Arg Gln Thr Pro Gly Lys Glu Arg Glu Leu Ile
 35 40 45

Ala Arg Leu Trp Trp Arg Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ser Val Tyr Ile Cys
 85 90 95

Thr Ala Gly Asp Thr Gly Gly Ala Ala Tyr Gly Tyr Trp Gly Gln Gly
 100 105 110

Thr Gln Val Thr Val Ser Ser
 115

<210> 191
 <211> 114
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Nanobody

<400> 191

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Thr Ser Gly Phe Thr Phe Ser Arg Phe
 20 25 30

Ala Ala Ala Lys Gly Ile Gly Val Tyr Gly Tyr Trp Gly Gln Gly Thr
100 105 110

FIGURE 10 Continued...

Gln Val Thr Val Ser Ser
115

<210> 193
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Nanobody

<400> 193

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Asp
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Thr Gly Arg Thr Ser Ser Ile Tyr
20 25 30

Asn Met Asp Trp Phe Leu Gln Ala Pro Gly Lys Glu Arg Glu Leu Ile
35 40 45

Ala Arg Ile Trp Trp Arg Ser Gly Ala Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Gly Asn Ala Lys Asn Thr Val Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Gly Val Tyr His Cys
85 90 95

Thr Ala Gly Val Thr Gly Gly Ala Ala Tyr Gly Tyr Trp Gly Gln Gly
100 105 110

Thr Gln Val Thr Val Ser Ser
115

<210> 194
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Nanobody

<400> 194

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

FIGURE 10 Continued...

Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Arg Thr Leu Arg Arg Tyr
20 25 30

Val Thr Gly Trp Phe Arg Gln Ala Pro Gly Lys Glu Arg Glu Val Val
35 40 45

Ala Ser Ile Ser Trp Ser Gly Glu Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Ala Ile Ser Arg Asp Asn Ala Lys Asn Ala Val Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Asn Leu Glu Asp Thr Gly Val Tyr Tyr Cys
85 90 95

Ala Glu Ala Glu Leu Pro Gly Thr Tyr Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Gln Val Thr Val Ser Ser
115

<210> 195
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Nanobody

<400> 195

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Thr Cys Ala Ala Ser Gly Arg Thr Phe Ser Ser Phe
20 25 30

Val Ile Gly Trp Phe Arg Gln Ala Pro Gly Lys Gln Arg Glu Val Val
35 40 45

Ala Ser Ile Thr Ser Gly Gly Ser Thr Tyr Tyr Glu Asp Ser Gly Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Arg Val Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95

FIGURE 10 Continued...

Ala Ala Glu Pro Ala Gly Val Tyr Asp Val Trp Gly Gln Gly Thr Gln
 100 105 110

Val Thr Val Ser Ser
 115

<210> 196
 <211> 124
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Nanobody

<400> 196

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Leu Thr Phe Asn Gln Tyr
 20 25 30

Thr Ile Thr Trp Phe Arg Gln Ala Pro Gly Lys Glu Arg Glu Phe Val
 35 40 45

Ala Ala Val Ser Trp Ser Gly Ser Ser Glu Ser Val Ser Asn Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Ala Tyr
 65 70 75 80

Leu Ala Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Ala Asp Arg Arg Gly Leu Ala Ser Thr Arg Ala Ala Asp Tyr Asp
 100 105 110

Tyr Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser
 115 120

<210> 197
 <211> 119
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Nanobody

<400> 197

FIGURE 10 Continued...

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Asp
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Thr Gly Arg Thr Ser Ser Ile Tyr
20 25 30

Asn Met Asp Trp Phe Arg Gln Gly Ser Gly Lys Gly Arg Glu Leu Ile
35 40 45

Ala Arg Ile Trp Trp Arg Ser Gly Glu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Asn Val Tyr His Cys
85 90 95

Ala Ala Gly Asp Thr Gly Gly Ala Ser Tyr Gly Tyr Trp Gly Gln Gly
100 105 110

Thr Gln Val Thr Val Ser Ser
115

<210> 198
<211> 213
<212> PRT
<213> Homo sapiens

<400> 198

Met Gln Leu Pro Leu Ala Leu Cys Leu Val Cys Leu Leu Val His Thr
1 5 10 15

Ala Phe Arg Val Val Glu Gly Gln Gly Trp Gln Ala Phe Lys Asn Asp
20 25 30

Ala Thr Glu Ile Ile Pro Glu Leu Gly Glu Tyr Pro Glu Pro Pro Pro
35 40 45

Glu Leu Glu Asn Asn Lys Thr Met Asn Arg Ala Glu Asn Gly Gly Arg
50 55 60

Pro Pro His His Pro Phe Glu Thr Lys Asp Val Ser Glu Tyr Ser Cys
65 70 75 80

Arg Glu Leu His Phe Thr Arg Tyr Val Thr Asp Gly Pro Cys Arg Ser

FIGURE 10 Continued...

	85							90						95					
Ala Lys Pro Val Thr Glu Leu Val Cys Ser Gly Gln Cys Gly Pro Ala																			
	100							105						110					
Arg Leu Leu Pro Asn Ala Ile Gly Arg Gly Lys Trp Trp Arg Pro Ser																			
	115							120						125					
Gly Pro Asp Phe Arg Cys Ile Pro Asp Arg Tyr Arg Ala Gln Thr Val																			
	130							135						140					
Gln Leu Leu Cys Pro Gly Gly Glu Ala Pro Arg Ala Arg Lys Val Arg																			
	145							150						155					
Leu Val Ala Ser Cys Lys Cys Lys Arg Leu Thr Arg Phe His Asn Gln																			
	165							170						175					
Ser Glu Leu Lys Asp Phe Gly Thr Glu Ala Ala Arg Pro Gln Lys Gly																			
	180							185						190					
Arg Lys Pro Arg Pro Arg Ala Arg Ser Ala Lys Ala Asn Gln Ala Glu																			
	195							200						205					
Leu Glu Asn Ala Tyr																			
	210																		
<210>	199																		
<211>	213																		
<212>	PRT																		
<213>	Artificial Sequence																		
<220>																			
<223>	Recombinant sclerostin																		
<400>	199																		
Met Pro Leu Leu Leu Leu Leu Pro Leu Leu Trp Ala Gly Ala Leu Ala																			
1	5							10						15					
His His His His His His His Gln Gly Trp Gln Ala Phe Lys Asn Asp																			
	20							25						30					
Ala Thr Glu Ile Ile Pro Glu Leu Gly Glu Tyr Pro Glu Pro Pro Pro																			
	35							40						45					
Glu Leu Glu Asn Asn Lys Thr Met Asn Arg Ala Glu Asn Gly Gly Arg																			
	50							55						60					

FIGURE 10 Continued...

Pro	Pro	His	His	Pro	Phe	Glu	Thr	Lys	Asp	Val	Ser	Glu	Tyr	Ser	Cys	65	70	75	80
Arg	Glu	Leu	His	Phe	Thr	Arg	Tyr	Val	Thr	Asp	Gly	Pro	Cys	Arg	Ser	85	90	95	
Ala	Lys	Pro	Val	Thr	Glu	Leu	Val	Cys	Ser	Gly	Gln	Cys	Gly	Pro	Ala	100	105	110	
Arg	Leu	Leu	Pro	Asn	Ala	Ile	Gly	Arg	Gly	Lys	Trp	Trp	Arg	Pro	Ser	115	120	125	
Gly	Pro	Asp	Phe	Arg	Cys	Ile	Pro	Asp	Arg	Tyr	Arg	Ala	Gln	Arg	Val	130	135	140	
Gln	Leu	Leu	Cys	Pro	Gly	Gly	Glu	Ala	Pro	Arg	Ala	Arg	Lys	Val	Arg	145	150	155	160
Leu	Val	Ala	Ser	Cys	Lys	Cys	Lys	Arg	Leu	Thr	Arg	Phe	His	Asn	Gln	165	170	175	
Ser	Glu	Leu	Lys	Asp	Phe	Gly	Thr	Glu	Ala	Ala	Arg	Pro	Gln	Lys	Gly	180	185	190	
Arg	Lys	Pro	Arg	Pro	Arg	Ala	Arg	Ser	Ala	Lys	Ala	Asn	Gln	Ala	Glu	195	200	205	
Leu	Glu	Asn	Ala	Tyr												210			

FIGURE 11B

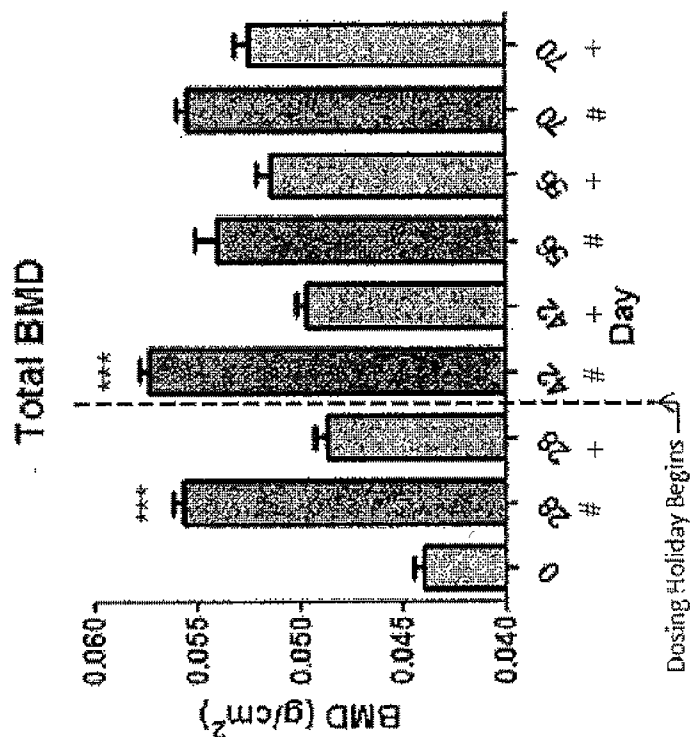
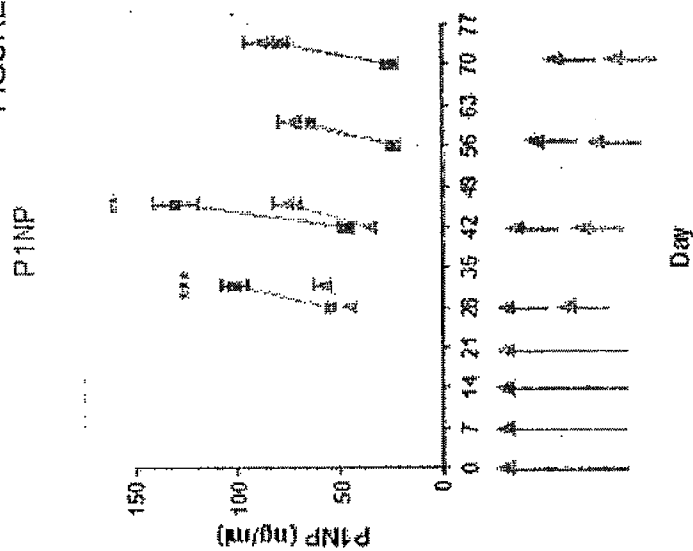


FIGURE 11A



eolf-seql.txt
SEQUENCE LISTING

<110> Robinson, Martyn

<120> TREATMENT OF BONE DISORDERS

<130> 31173/40016B

<150> 61/782,072

<151> 2013-03-14

<150> 61/668,210

<151> 2012-07-05

<160> 809

<170> PatentIn version 3.5

<210> 1

<211> 190

<212> PRT

<213> Homo sapiens

<400> 1

Gln Gly Trp Gln Ala Phe Lys Asn Asp Ala Thr Glu Ile Ile Pro Glu
1 5 10 15

Leu Gly Glu Tyr Pro Glu Pro Pro Pro Glu Leu Glu Asn Asn Lys Thr
20 25 30

Met Asn Arg Ala Glu Asn Gly Gly Arg Pro Pro His His Pro Phe Glu
35 40 45

Thr Lys Asp Val Ser Glu Tyr Ser Cys Arg Glu Leu His Phe Thr Arg
50 55 60

Tyr Val Thr Asp Gly Pro Cys Arg Ser Ala Lys Pro Val Thr Glu Leu
65 70 75 80

Val Cys Ser Gly Gln Cys Gly Pro Ala Arg Leu Leu Pro Asn Ala Ile
85 90 95

Gly Arg Gly Lys Trp Trp Arg Pro Ser Gly Pro Asp Phe Arg Cys Ile
100 105 110

Pro Asp Arg Tyr Arg Ala Gln Arg Val Gln Leu Leu Cys Pro Gly Gly
115 120 125

Glu Ala Pro Arg Ala Arg Lys Val Arg Leu Val Ala Ser Cys Lys Cys
130 135 140

Lys Arg Leu Thr Arg Phe His Asn Gln Ser Glu Leu Lys Asp Phe Gly
145 150 155 160

Thr Glu Ala Ala Arg Pro Gln Lys Gly Arg Lys Pro Arg Pro Arg Ala
165 170 175

eolf-seql.txt

Arg Ser Ala Lys Ala Asn Gln Ala Glu Leu Glu Asn Ala Tyr
 180 185 190

<210> 2
 <211> 14
 <212> PRT
 <213> Homo sapiens

<400> 2

Asp Val Ser Glu Tyr Ser Cys Arg Glu Leu His Phe Thr Arg
 1 5 10

<210> 3
 <211> 16
 <212> PRT
 <213> Homo sapiens

<400> 3

Ser Ala Lys Pro Val Thr Glu Leu Val Cys Ser Gly Gln Cys Gly Pro
 1 5 10 15

<210> 4
 <211> 17
 <212> PRT
 <213> Homo sapiens

<400> 4

Trp Trp Arg Pro Ser Gly Pro Asp Phe Arg Cys Ile Pro Asp Arg Tyr
 1 5 10 15

Arg

<210> 5
 <211> 12
 <212> PRT
 <213> Homo sapiens

<400> 5

Leu Val Ala Ser Cys Lys Cys Lys Arg Leu Thr Arg
 1 5 10

<210> 6
 <211> 26
 <212> PRT
 <213> Homo sapiens

<400> 6

Cys Gly Pro Ala Arg Leu Leu Pro Asn Ala Ile Gly Arg Gly Lys Trp
 1 5 10 15

Trp Arg Pro Ser Gly Pro Asp Phe Arg Cys
 20 25

eolf-seql.txt

<210> 7
 <211> 214
 <212> PRT
 <213> Mus musculus

<400> 7

Asp Val Gln Met Ile Gln Ser Pro Ser Ser Leu Ser Ala Ser Leu Gly
 1 5 10 15

Asp Ile Val Thr Met Thr Cys Gln Ala Ser Gln Gly Thr Ser Ile Asn
 20 25 30

Leu Asn Trp Phe Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ser Ser Asn Leu Glu Asp Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Arg Tyr Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Asp
 65 70 75 80

Glu Asp Leu Ala Thr Tyr Phe Cys Leu Gln His Ser Tyr Leu Pro Tyr
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala Asp Ala Ala
 100 105 110

Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln Leu Thr Ser Gly
 115 120 125

Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr Pro Lys Asp Ile
 130 135 140

Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln Asn Gly Val Leu
 145 150 155 160

Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met Ser
 165 170 175

Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg His Asn Ser Tyr
 180 185 190

Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro Ile Val Lys Ser
 195 200 205

Phe Asn Arg Asn Glu Cys
 210

<210> 8
 <211> 645
 <212> DNA
 <213> Mus musculus

eolf-seql.txt

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<400> 8
gatgtccaga tgattcagtc tccatcctcc ctgtctgcat ctttgggaga catagtcacc      60
atgacttgcc aggcaagtca gggcactagc attaatttaa actggtttca gcaaaaacca      120
gggaaggctc ctaagctcct gatctatggt tcaagcaact tggaagatgg ggtcccatca      180
aggttcagtg gcagtagata tgggacagat ttcactctca ccatcagcag cctggaggat      240
gaagatctgg caacttattt ctgtctacaa catagttatc tcccgtacac gttcggaggg      300
gggaccaagc tggaaataaa acgggctgat gctgcaccaa ctgtatccat cttcccacca      360
tccagtgagc agttaacatc tggaggtgcc tcagtcgtgt gcttcttgaa caacttctac      420
cccaaagaca tcaatgtcaa gtggaagatt gatggcagtg aacgacaaaa tggcgctcctg      480
aacagttgga ctgatcagga cagcaaagac agcacctaca gcatgagcag caccctcacg      540
ttgaccaagg acgagtatga acgacataac agctatacct gtgaggccac tcacaagaca      600
tcaacttcac ccattgtcaa gagcttcaac aggaatgagt gttag                        645

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<210> 9
<211> 236
<212> PRT
<213> Mus musculus

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<400> 9
Met Asn Thr Arg Ala Pro Ala Glu Phe Leu Gly Phe Leu Leu Leu Trp
1          5          10          15

Phe Leu Gly Ala Arg Cys Asp Val Gln Met Ile Gln Ser Pro Ser Ser
          20          25          30

Leu Ser Ala Ser Leu Gly Asp Ile Val Thr Met Thr Cys Gln Ala Ser
          35          40          45

Gln Gly Thr Ser Ile Asn Leu Asn Trp Phe Gln Gln Lys Pro Gly Lys
          50          55          60

Ala Pro Lys Leu Leu Ile Tyr Gly Ser Ser Asn Leu Glu Asp Gly Val
65          70          75          80

Pro Ser Arg Phe Ser Gly Ser Arg Tyr Gly Thr Asp Phe Thr Leu Thr
          85          90          95

Ile Ser Ser Leu Glu Asp Glu Asp Leu Ala Thr Tyr Phe Cys Leu Gln
          100          105          110

His Ser Tyr Leu Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile
          115          120          125

Lys Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser
          130          135          140

Glu Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn

```

eolf-seql.txt

145 150 155 160

Phe Tyr Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu
165 170 175

Arg Gln Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp
180 185 190

Ser Thr Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr
195 200 205

Glu Arg His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr
210 215 220

Ser Pro Ile Val Lys Ser Phe Asn Arg Asn Glu Cys
225 230 235

<210> 10
<211> 711
<212> DNA
<213> Mus musculus

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agatgtgatg tccagatgat tcagtctcca tcctccctgt ctgcatcttt gggagacata 120
gtcaccatga cttgccaggc aagtcagggc actagcatta atttaaactg gtttcagcaa 180
aaaccagggg aggctcctaa gctcctgata tatggttcaa gcaacttgga agatgggggc 240
ccatcaaggt tcagtggcag tagatatggg acagatttca ctctcaccat cagcagcctg 300
gaggatgaag atctggcaac ttatttctgt ctacaacata gttatctccc gtacacgttc 360
ggaggggggga ccaagctgga aataaaacgg gctgatgctg caccaactgt atccatcttc 420
ccaccatcca gtgagcagtt aacatctgga ggtgcctcag tcgtgtgctt cttgaacaac 480
ttctaccca aagacatcaa tgtcaagtgg aagattgatg gcagtgaacg aaaaaatggc 540
gtcctgaaca gttggactga tcaggacagc aaagacagca cctacagcat gagcagcacc 600
ctcacgttga ccaaggacga gtatgaacga cataacagct atacctgtga ggccactcac 660
aagacatcaa cttcacccat tgtcaagagc ttcaacagga atgagtgtta g 711

<210> 11
<211> 443
<212> PRT
<213> Mus musculus

<400> 11
Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Thr Pro Gly Ala
1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp His
20 25 30

eolf-seql.txt

Tyr Met Ser Trp Val Lys Gln Ser His Gly Lys Ser Leu Glu Trp Ile
 35 40 45
 Gly Asp Ile Asn Pro Tyr Ser Gly Glu Thr Thr Tyr Asn Gln Lys Phe
 50 55 60
 Lys Gly Thr Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Ile Ala Tyr
 65 70 75 80
 Met Glu Ile Arg Gly Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Asp Asp Tyr Asp Ala Ser Pro Phe Ala Tyr Trp Gly Gln Gly
 100 105 110
 Thr Leu Val Thr Val Ser Ala Ala Lys Thr Thr Pro Pro Ser Val Tyr
 115 120 125
 Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr Asn Ser Met Val Thr Leu
 130 135 140
 Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val Thr Val Thr Trp
 145 150 155 160
 Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr Phe Pro Ala Val Leu
 165 170 175
 Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val Thr Val Pro Ser Ser
 180 185 190
 Thr Trp Pro Ser Glu Thr Val Thr Cys Asn Val Ala His Pro Ala Ser
 195 200 205
 Ser Thr Lys Val Asp Lys Lys Ile Val Pro Arg Asp Cys Gly Cys Lys
 210 215 220
 Pro Cys Ile Cys Thr Val Pro Glu Val Ser Ser Val Phe Ile Phe Pro
 225 230 235 240
 Pro Lys Pro Lys Asp Val Leu Thr Ile Thr Leu Thr Pro Lys Val Thr
 245 250 255
 Cys Val Val Val Asp Ile Ser Lys Asp Asp Pro Glu Val Gln Phe Ser
 260 265 270
 Trp Phe Val Asp Asp Val Glu Val His Thr Ala Gln Thr Gln Pro Arg
 275 280 285
 Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser Val Ser Glu Leu Pro Ile
 290 295 300

eolf-seql.txt

Met His Gln Asp Trp Leu Asn Gly Lys Glu Phe Lys Cys Arg Val Asn
305 310 315 320

Ser Pro Ala Phe Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Thr Lys
325 330 335

Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr Ile Pro Pro Pro Lys Glu
340 345 350

Gln Met Ala Lys Asp Lys Val Ser Leu Thr Cys Met Ile Thr Asp Phe
355 360 365

Phe Pro Glu Asp Ile Thr Val Glu Trp Gln Trp Asn Gly Gln Pro Ala
370 375 380

Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met Asp Thr Asp Gly Ser Tyr
385 390 395 400

Phe Ile Tyr Ser Lys Leu Asn Val Gln Lys Ser Asn Trp Glu Ala Gly
405 410 415

Asn Thr Phe Thr Cys Ser Val Leu His Glu Gly Leu His Asn His His
420 425 430

Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys
435 440

<210> 12
<211> 1332
<212> DNA
<213> Mus musculus

<400> 12
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tcttgaagg cttctggata cacattcact gaccactaca tgagctgggt gaagcagagt 120
catggaaaaa gccttgagtg gattggagat attaatccct attctggtga aactacctac 180
aaccagaagt tcaagggcac ggccacattg actgtagaca agtcttccag tatagcctac 240
atggagatcc gcggcctgac atctgaggac tctgcagtct attactgtgc aagagatgat 300
tacgacgcct ctccgtttgc ttactggggc caagggactc tggtcactgt ctctgcagcc 360
aaaacgacac ccccatctgt ctatccactg gccctggat ctgctgcca aactaactcc 420
atggtgaccc tgggatgcct ggtcaagggc tatttccttg agccagtgc agtgacctgg 480
aactctggat ccctgtccag cgggtgtgcac accttcccag ctgtcctgca gtctgacctc 540
tacactctga gcagctcagt gactgtcccc tccagcacct ggcccagcga gaccgtcacc 600
tgcaacgttg cccacccggc cagcagcacc aaggtggaca agaaaattgt gcccagggat 660
tgtggttgta agccttgcat atgtacagtc ccagaagtat catctgtctt catcttcccc 720
ccaaagccca aggatgtgct caccattact ctgactccta aggtcacgtg tgttgtggta 780

eolf-seql.txt

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gacatcagca aggatgatcc cgaggtccag ttcagctggt ttgtagatga tgtggaggtg      840
cacacagctc agacgcaacc ccgggaggag cagttcaaca gcactttccg ctcagtcagt      900
gaacttccca tcatgcacca ggactggctc aatggcaagg agttcaaagt cagggtcaac      960
agtccagctt tccctgcccc catcgagaaa accatctcca aaaccaaagg cagaccgaag     1020
gctccacagg tgtacaccat tccacctccc aaggagcaga tggccaagga taaagtcagt     1080
ctgacctgca tgataacaga cttcttcctt gaagacatta ctgtggagtg gcagtggaat     1140
gggcagccag cggagaacta caagaacact cagcccatca tggacacaga tggctcttac     1200
ttcatctaca gcaagctcaa tgtgcagaag agcaactggg aggcaggaaa tactttcacc     1260
tgctctgtgt tacatgaggg cctgcacaac caccatactg agaagagcct ctcccactct     1320
cctggtaaata ga                                                           1332

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<210> 13
 <211> 462
 <212> PRT
 <213> Mus musculus

<400> 13

Met Arg Cys Arg Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly
 1 5 10 15

Val Leu Ser Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Thr
 20 25 30

Pro Gly Ala Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe
 35 40 45

Thr Asp His Tyr Met Ser Trp Val Lys Gln Ser His Gly Lys Ser Leu
 50 55 60

Glu Trp Ile Gly Asp Ile Asn Pro Tyr Ser Gly Glu Thr Thr Tyr Asn
 65 70 75 80

Gln Lys Phe Lys Gly Thr Ala Thr Leu Thr Val Asp Lys Ser Ser Ser
 85 90 95

Ile Ala Tyr Met Glu Ile Arg Gly Leu Thr Ser Glu Asp Ser Ala Val
 100 105 110

Tyr Tyr Cys Ala Arg Asp Asp Tyr Asp Ala Ser Pro Phe Ala Tyr Trp
 115 120 125

Gly Gln Gly Thr Leu Val Thr Val Ser Ala Ala Lys Thr Thr Pro Pro
 130 135 140

Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr Asn Ser Met
 145 150 155 160

eolf-seql.txt

Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val Thr
165 170 175

Val Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr Phe Pro
180 185 190

Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val Thr Val
195 200 205

Pro Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys Asn Val Ala His
210 215 220

Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val Pro Arg Asp Cys
225 230 235 240

Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu Val Ser Ser Val Phe
245 250 255

Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr Ile Thr Leu Thr Pro
260 265 270

Lys Val Thr Cys Val Val Val Asp Ile Ser Lys Asp Asp Pro Glu Val
275 280 285

Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val His Thr Ala Gln Thr
290 295 300

Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser Val Ser Glu
305 310 315 320

Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly Lys Glu Phe Lys Cys
325 330 335

Arg Val Asn Ser Pro Ala Phe Pro Ala Pro Ile Glu Lys Thr Ile Ser
340 345 350

Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr Ile Pro Pro
355 360 365

Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr Cys Met Ile
370 375 380

Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln Trp Asn Gly
385 390 395 400

Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met Asp Thr Asp
405 410 415

Gly Ser Tyr Phe Ile Tyr Ser Lys Leu Asn Val Gln Lys Ser Asn Trp
420 425 430

eolf-seql.txt

Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu Gly Leu His
 435 440 445

Asn His His Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys
 450 455 460

<210> 14
 <211> 1389
 <212> DNA
 <213> Mus musculus

<400> 14
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 tgtaaggctt ctggatacac attcactgac cactacatga gctgggtgaa gcagagtcac 180
 ggaaaaagcc ttgagtggat tggagatatt aatccctatt ctggtgaaac tacctacaac 240
 cagaagttca agggcacggc cacattgact gtagacaagt cttccagtat agcctacatg 300
 gagatccgcg gcctgacatc tgaggactct gcagtctatt actgtgcaag agatgattac 360
 gacgcctctc cgtttgctta ctggggccaa gggactctgg tcaactgtctc tgcagccaaa 420
 acgacacccc catctgtcta tccactggcc cctggatctg ctgcccaaac taactccatg 480
 gtgaccctgg gatgcctggt caagggctat ttccctgagc cagtgcagct gacctggaac 540
 tctggatccc tgtccagcgg tgtgcacacc ttcccagctg tcctgcagtc tgacctctac 600
 actctgagca gtcagtgac tgtcccctcc agcacctggc ccagcgagac cgtcacctgc 660
 aacgttgccc acccggccag cagcaccaag gtggacaaga aaattgtgcc cagggattgt 720
 ggttgtaagc cttgcatatg tacagtccca gaagtatcat ctgtcttcat cttcccccca 780
 aagccaagg atgtgctcac cattactctg actcctaagg tcacgtgtgt tgtggtagac 840
 atcagcaagg atgatcccg ggtccagttc agctggtttg tagatgatgt ggaggtgcac 900
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 ccacaggtgt acaccattcc acctcccaag gagcagatgg ccaaggataa agtcagtctg 1140
 acctgcatga taacagactt cttccctgaa gacattactg tggagtggca gtggaatggg 1200
 cagccagcgg agaactacaa gaacactcag cccatcatgg acacagatgg ctcttacttc 1260
 atctacagca agctcaatgt gcagaagagc aactgggagg caggaaatac tttcacctgc 1320
 tctgtgttac atgagggcct gcacaaccac catactgaga agagcctctc ccactctcct 1380
 ggtaaataga 1389

<210> 15
 <211> 218
 <212> PRT
 <213> Mus musculus

eolf-seql.txt

<400> 15

Asp Ile Val Leu Thr Gln Ser Pro Ala Ser Leu Thr Val Ser Leu Gly
1 5 10 15

Leu Arg Ala Thr Ile Ser Cys Lys Ala Ser Gln Ser Val Asp Tyr Asp
20 25 30

Gly Asp Ser Tyr Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro
35 40 45

Lys Leu Leu Ile Tyr Ala Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala
50 55 60

Arg Phe Ser Gly Asn Gly Ser Gly Thr Asp Phe Thr Leu Asn Ile His
65 70 75 80

Pro Val Glu Glu Glu Asp Ala Val Thr Tyr Tyr Cys Gln Gln Ser Asn
85 90 95

Glu Asp Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg
100 105 110

Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln
115 120 125

Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr
130 135 140

Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln
145 150 155 160

Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr
165 170 175

Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg
180 185 190

His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro
195 200 205

Ile Val Lys Ser Phe Asn Arg Asn Glu Cys
210 215

<210> 16

<211> 657

<212> DNA

<213> Mus musculus

<400> 16

gacattgtgc tgaccaatc tccagcttct ttgactgtgt ctctaggcct gagggccacc 60

atctcctgca aggccagcca aagtgttgat tatgatggtg atagttatat gaactggtac 120

eolf-seql.txt

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cagcagaaac caggacagcc acccaaactc ctcatctatg ctgcatccaa tctagaatct      180
gggatcccag ccagggtttag tggcaatggg tctgggacag acttcaccct caacatccat      240
cctgtggagg aggaggatgc tgtaacctat tactgtcaac aaagtaatga ggatccgtgg      300
acgttcggtg gaggcaccaa gctggaaatc aaacgggctg atgctgcacc aactgtatcc      360
atcttcccac catccagtga gcagttaaca tctggagggtg cctcagtcgt gtgcttcttg      420
aacaacttct accccaaaga catcaatgtc aagtggaaga ttgatggcag tgaacgacaa      480
aatggcgctc tgaacagttg gactgatcag gacagcaaag acagcaccta cagcatgagc      540
agcacctca cgttgaccaa ggacgagtat gaacgacata acagctatac ctgtgaggcc      600
actcacaaga catcaacttc acccattgtc aagagcttca acaggaatga gtgttag      657

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<210> 17
 <211> 238
 <212> PRT
 <213> Mus musculus

<400> 17

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Gly Ser Thr Gly Asp Ile Val Leu Thr Gln Ser Pro Ala Ser Leu Thr
 20 25 30

Val Ser Leu Gly Leu Arg Ala Thr Ile Ser Cys Lys Ala Ser Gln Ser
 35 40 45

Val Asp Tyr Asp Gly Asp Ser Tyr Met Asn Trp Tyr Gln Gln Lys Pro
 50 55 60

Gly Gln Pro Pro Lys Leu Leu Ile Tyr Ala Ala Ser Asn Leu Glu Ser
 65 70 75 80

Gly Ile Pro Ala Arg Phe Ser Gly Asn Gly Ser Gly Thr Asp Phe Thr
 85 90 95

Leu Asn Ile His Pro Val Glu Glu Glu Asp Ala Val Thr Tyr Tyr Cys
 100 105 110

Gln Gln Ser Asn Glu Asp Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu
 115 120 125

Glu Ile Lys Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro
 130 135 140

Ser Ser Glu Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu
 145 150 155 160

Asn Asn Phe Tyr Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly

165

170

175

Ser Glu Arg Gln Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser
 180 185 190

Lys Asp Ser Thr Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp
 195 200 205

Glu Tyr Glu Arg His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr
 210 215 220

Ser Thr Ser Pro Ile Val Lys Ser Phe Asn Arg Asn Glu Cys
 225 230 235

<210> 18
 <211> 717
 <212> DNA
 <213> Mus musculus

<400> 18
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 gacattgtgc tgaccaatc tccagcttct ttgactgtgt ctctaggcct gagggccacc 120
 atctcctgca aggccagcca aagtgttgat tatgatggtg atagttatat gaactggtac 180
 cagcagaaac caggacagcc acccaaactc ctcatctatg ctgcatccaa tctagaatct 240
 gggatcccag ccagggttag tggcaatggg tctgggacag acttcaccct caacatccat 300
 cctgtggagg aggaggatgc tgtaacctat tactgtcaac aaagtaatga ggatccgtgg 360
 acgttcggtg gaggcaccaa gctggaaatc aaacgggctg atgctgcacc aactgtatcc 420
 atcttcccac catccagtga gcagttaaca tctggagggtg cctcagtcgt gtgcttcttg 480
 aacaacttct accccaaaga catcaatgtc aagtggaaga ttgatggcag tgaacgacaa 540
 aatggcgtcc tgaacagttg gactgatcag gacagcaaag acagcaccta cagcatgagc 600
 agcacctca cgttgacaa ggacgagtat gaacgacata acagctatac ctgtgaggcc 660
 actcacaaga catcaacttc acccattgtc aagagcttca acaggaatga gtgttag 717

<210> 19
 <211> 449
 <212> PRT
 <213> Mus musculus

<400> 19

Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Thr
 1 5 10 15

Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Cys
 20 25 30

Tyr Met Asn Trp Val Lys Gln Ser His Gly Lys Ser Leu Glu Trp Ile
 35 40 45

eolf-seql.txt

Gly Asp Ile Asn Pro Phe Asn Gly Gly Thr Thr Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

Met Gln Leu Asn Ser Leu Thr Ser Asp Asp Ser Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser His Tyr Tyr Phe Asp Gly Arg Val Pro Trp Asp Ala Met
100 105 110

Asp Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser Ala Lys Thr
115 120 125

Thr Pro Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr
130 135 140

Asn Ser Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu
145 150 155 160

Pro Val Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val His
165 170 175

Thr Phe Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser
180 185 190

Val Thr Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys Asn
195 200 205

Val Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val Pro
210 215 220

Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu Val Ser
225 230 235 240

Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr Ile Thr
245 250 255

Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys Asp Asp
260 265 270

Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val His Thr
275 280 285

Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser
290 295 300

Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly Lys Glu
305 310 315 320

eolf-seql.txt

Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu Lys
325 330 335

Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr
340 345 350

Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr
355 360 365

Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln
370 375 380

Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met
385 390 395 400

Asp Thr Asp Gly Ser Tyr Phe Ile Tyr Ser Lys Leu Asn Val Gln Lys
405 410 415

Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu
420 425 430

Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser Pro Gly
435 440 445

Lys

<210> 20
<211> 1350
<212> DNA
<213> Mus musculus

<400> 20
gaggtccagc tgcaacaatc tggacctgag ctggtgaagc ctgggacttc agtgaagatg 60
tcctgtaagg cttctggata cacattcact gactgctaca tgaactgggt gaagcagagc 120
catgggaaga gccttgaatg gattggagat attaatcctt tcaacggtgg tactacctac 180
aaccagaagt tcaagggcaa ggccacattg actgtagaca aatcctccag cacagcctac 240
atgcagctca acagcctgac atctgacgac tctgcagtct attactgtgc aagatcccat 300
tattacttcg atggtagagt cccttgggat gctatggact actgggggtca aggaacctca 360
gtcaccgtct cctcagccaa aacgacaccc ccattctgtct atccactggc ccctggatct 420
gctgccc aaa ctaactccat ggtgaccctg ggatgcctgg tcaagggcta tttccctgag 480
ccagtgcag tgacctggaa ctctggatcc ctgtccagcg gtgtgcacac cttcccagct 540
gtcctgcagt ctgacctcta cactctgagc agctcagtga ctgtcccctc cagcacctgg 600
cccagcgaga ccgtcacctg caacgttgcc caccggcca gcagaccaa ggtggacaag 660
aaaattgtgc ccagggattg tggttgtaag ccttgcatat gtacagtccc agaagtatca 720
tctgtcttca tcttcccccc aaagcccaag gatgtgtctca ccattactct gactcctaag 780

eolf-seql.txt

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gtcacgtgtg ttgtggtaga catcagcaag gatgatcccg aggtccagtt cagctggttt      840
gtagatgatg tggagggtgca cacagctcag acgcaacccc gggaggagca gttcaacagc      900
actttccgct cagtcagtga acttcccatc atgcaccagg actgggtcaa tggcaaggag      960
ttcaaatgca gggtaacag tgcagctttc cctgccccca tcgagaaaac catctccaaa     1020
accaaaggca gaccgaaggc tccacaggtg tacaccattc cacctcccaa ggagcagatg     1080
gccaaggata aagtcagtct gacctgcatg ataacagact tcttcctga agacattact     1140
gtggagtggc agtggaatgg gcagccagcg gagaactaca agaactca gcccatcatg     1200
gacacagatg gctcttactt catctacagc aagctcaatg tgcagaagag caactgggag     1260
gcaggaaata ctttcacctg ctctgtgtta catgagggcc tgcacaacca ccatactgag     1320
aagagcctct cccactctcc tggtaaatga                                     1350
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<210> 21
 <211> 468
 <212> PRT
 <213> Mus musculus

<400> 21

Met Gly Trp Asn Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly
 1 5 10 15

Val Tyr Ser Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys
 20 25 30

Pro Gly Thr Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe
 35 40 45

Thr Asp Cys Tyr Met Asn Trp Val Lys Gln Ser His Gly Lys Ser Leu
 50 55 60

Glu Trp Ile Gly Asp Ile Asn Pro Phe Asn Gly Gly Thr Thr Tyr Asn
 65 70 75 80

Gln Lys Phe Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser
 85 90 95

Thr Ala Tyr Met Gln Leu Asn Ser Leu Thr Ser Asp Asp Ser Ala Val
 100 105 110

Tyr Tyr Cys Ala Arg Ser His Tyr Tyr Phe Asp Gly Arg Val Pro Trp
 115 120 125

Asp Ala Met Asp Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
 130 135 140

Ala Lys Thr Thr Pro Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala
 145 150 155 160

eolf-seql.txt

Ala Gln Thr Asn Ser Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr
165 170 175

Phe Pro Glu Pro Val Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser
180 185 190

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu
195 200 205

Ser Ser Ser Val Thr Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val
210 215 220

Thr Cys Asn Val Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys
225 230 235 240

Ile Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro
245 250 255

Glu Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu
260 265 270

Thr Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser
275 280 285

Lys Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu
290 295 300

Val His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr
305 310 315 320

Phe Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn
325 330 335

Gly Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro
340 345 350

Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln
355 360 365

Val Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val
370 375 380

Ser Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val
385 390 395 400

Glu Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln
405 410 415

Pro Ile Met Asp Thr Asp Gly Ser Tyr Phe Ile Tyr Ser Lys Leu Asn
420 425 430

eolf-seql.txt

Val Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val
435 440 445

Leu His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His
450 455 460

Ser Pro Gly Lys
465

<210> 22
<211> 1407
<212> DNA
<213> Mus musculus

<400> 22
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gtccagctgc aacaatctgg acctgagctg gtgaagcctg ggacttcagt gaagatgtcc 120
tgtaaggctt ctggatacac attcactgac tgctacatga actgggtgaa gcagagccat 180
gggaagagcc ttgaatggat tggagatatt aatcctttca acggtggtac tacctacaac 240
cagaagttca agggcaaggc cacattgact gtagacaaat cctccagcac agcctacatg 300
cagctcaaca gcctgacatc tgacgactct gcagtctatt actgtgcaag atcccattat 360
tacttcgatg gtagagtccc ttgggatgct atggactact ggggtcaagg aacctcagtc 420
accgtctcct cagccaaaac gacaccccca tctgtctatc cactggcccc tggatctgct 480
gcccaaacta actccatggt gaccctggga tgccctggta agggctatct ccctgagcca 540
gtgacagtga cctggaactc tggatccctg tccagcgggtg tgcacacctt cccagctgtc 600
ctgcagtctg acctctacac tctgagcagc tcagtgaactg tcccctccag cacctggccc 660
agcgagaccg tcacctgcaa cgttgcccac ccggccagca gcaccaaggt ggacaagaaa 720
attgtgcccc gggattgtgg ttgtaagcct tgcatatgta cagtcccaga agtatcatct 780
gtcttcatct tcccccaaaa gcccaaggat gtgctcacca ttactctgac tcctaaggctc 840
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gatgatgtgg aggtgcacac agctcagacg caaccccggg aggagcagtt caacagcact 960
ttccgctcag tcagtgaact tcccatcatg caccaggact ggctcaatgg caaggagtcc 1020
aaatgcaggg tcaacagtgc agctttccct gcccccatcg agaaaaccat ctccaaaacc 1080
aaaggcagac cgaaggctcc acaggtgtac accattccac ctcccaagga gcagatggcc 1140
aaggataaag tcagtctgac ctgcatgata acagacttct tccctgaaga cattactgtg 1200
gagtggcagt ggaatgggca gccagcggag aactacaaga aactcagcc catcatggac 1260
acagatggct cttacttcat ctacagcaag ctcaatgtgc agaagagcaa ctgggaggca 1320
ggaaataactt tcacctgctc tgtgttacat gagggcctgc acaaccacca tactgagaag 1380
agcctctccc actctcctgg taaatga 1407

eolf-seql.txt

<210> 23
 <211> 217
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Polypeptide

<220>
 <221> MISC_FEATURE
 <223> Rabbit-mouse chimera

<400> 23

Ala Gln Val Leu Thr Gln Thr Pro Ala Ser Val Ser Ala Ala Val Gly
 1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ser Ser Gln Ser Val Tyr Asp Asn
 20 25 30

Asn Trp Leu Ala Trp Phe Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
 35 40 45

Leu Ile Tyr Asp Ala Ser Asp Leu Ala Ser Gly Val Pro Ser Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val
 65 70 75 80

Gln Cys Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Ala Tyr Asn Asp
 85 90 95

Val Ile Tyr Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys Arg Thr
 100 105 110

Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln Leu
 115 120 125

Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr Pro
 130 135 140

Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln Asn
 145 150 155 160

Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr
 165 170 175

Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg His
 180 185 190

Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro Ile
 195 200 205

Val Lys Ser Phe Asn Arg Asn Glu Cys

210

215

<210> 24
 <211> 654
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic Polynucleotide

<220>
 <221> misc_feature
 <223> Rabbit-mouse chimera

<400> 24
 gcgcaagtgc tgaccagac tccagcctcc gtgtctgcag ctgtgggagg cacagtcacc 60
 atcaattgcc agtccagtca gagtgtttat gataacaact ggtagcctg gtttcagcag 120
 aaaccagggc agcctcccaa gctcctgatt tatgatgcat ccgatctggc atctggggtc 180
 ccatcgcggt tcagtggcag tggatctggg acacagttca ctctcaccat cagcggcgtg 240
 cagtgtgccg atgctgccac ttactactgt caaggcgctt ataatgatgt tatttatgct 300
 ttcggcggag ggaccgaggt ggtgggtcaaa cgtacggatg ctgcaccaac tgtatccatc 360
 ttcccacat ccagttagca gttaacatct ggaggtgcct cagtcgtgtg cttcttgaac 420
 aacttctacc ccaaagacat caatgtcaag tggaagattg atggcagtga acgacaaaat 480
 ggcgtcctga acagttggac tgatcaggac agcaaagaca gcacctacag catgagcagc 540
 accctcacgt tgaccaagga cgagtatgaa cgacataaca gctatacctg tgaggccact 600
 cacaagacat caacttcacc cattgtcaag agcttcaaca ggaatgagtg ttag 654

<210> 25
 <211> 239
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Polypeptide

<220>
 <221> MISC_FEATURE
 <223> Rabbit-mouse chimera

<400> 25

Met Asp Thr Arg Ala Pro Thr Gln Leu Leu Gly Leu Leu Leu Leu Trp
 1 5 10 15

Leu Pro Gly Ala Thr Phe Ala Gln Val Leu Thr Gln Thr Pro Ala Ser
 20 25 30

Val Ser Ala Ala Val Gly Gly Thr Val Thr Ile Asn Cys Gln Ser Ser
 35 40 45

Gln Ser Val Tyr Asp Asn Asn Trp Leu Ala Trp Phe Gln Gln Lys Pro
 Page 20

50

55

Gly Gln Pro Pro Lys Leu Leu Ile Tyr Asp Ala Ser Asp Leu Ala Ser
65 70 75 80

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Gln Phe Thr
85 90 95

Leu Thr Ile Ser Gly Val Gln Cys Ala Asp Ala Ala Thr Tyr Tyr Cys
100 105 110

Gln Gly Ala Tyr Asn Asp Val Ile Tyr Ala Phe Gly Gly Gly Thr Glu
115 120 125

Val Val Val Lys Arg Thr Asp Ala Ala Pro Thr Val Ser Ile Phe Pro
130 135 140

Pro Ser Ser Glu Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe
145 150 155 160

Leu Asn Asn Phe Tyr Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp
165 170 175

Gly Ser Glu Arg Gln Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp
180 185 190

Ser Lys Asp Ser Thr Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys
195 200 205

Asp Glu Tyr Glu Arg His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys
210 215 220

Thr Ser Thr Ser Pro Ile Val Lys Ser Phe Asn Arg Asn Glu Cys
225 230 235

<210> 26
<211> 720
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> misc_feature
<223> Rabbit-mouse chimera

<400> 26
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acatttgctg aagtgtgtgac ccagactcca gcctccgtgt ctgcagctgt gggaggcaca 120
gtcaccatca attgccagtc cagtcagagt gtttatgata acaactgggt agcctgggtt 180
cagcagaaac cagggcagcc tccaagctc ctgatttatg atgcatccga tctggcatct 240

eolf-seql.txt

```

ggggtcccat cgcggttcag tggcagtgga tctgggacac agttcactct caccatcagc      300
ggcgtgcagt gtgccgatgc tgccacttac tactgtcaag gcgcttataa tgatgttatt      360
tatgctttcg gcggagggac cgaggtggtg gtcaaacgta cggatgctgc accaactgta      420
tccatcttcc caccatccag tgagcagtta acatctggag gtgcctcagt cgtgtgcttc      480
ttgaacaact tctaccccaa agacatcaat gtcaagtgga agattgatgg cagtgaacga      540
caaaatggcg tcctgaacag ttggactgat caggacagca aagacagcac ctacagcatg      600
agcagcacc tcacgttgac caaggacgag tatgaacgac ataacagcta tacctgtgag      660
gccactcaca agacatcaac ttcacccatt gtcaagagct tcaacaggaa tgagtgttag      720

```

```

<210> 27
<211> 433
<212> PRT
<213> Artificial Sequence

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```

<220>
<223> Synthetic Polypeptide

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```

<220>
<221> MISC_FEATURE
<223> Humanized Antibody

```

```

<400> 27

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```

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1          5          10          15

```

```

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Ser Tyr Trp
          20          25          30

```

```

Met Asn Trp Val Arg Gln Ala Pro Gly Glu Gly Leu Glu Trp Ile Gly
          35          40          45

```

```

Thr Ile Asp Ser Gly Gly Arg Thr Asp Tyr Ala Ser Trp Ala Lys Gly
50          55          60

```

```

Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Met Asp Leu Lys Met Thr
65          70          75          80

```

```

Ser Leu Thr Thr Gly Asp Thr Ala Arg Tyr Phe Cys Ala Arg Asn Trp
          85          90          95

```

```

Asn Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr
100          105          110

```

```

Lys Gly Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr
115          120          125

```

```

Asn Ser Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu
130          135          140

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eolf-seql.txt

Pro Val Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val His
145 150 155 160

Thr Phe Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser
165 170 175

Val Thr Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys Asn
180 185 190

Val Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val Pro
195 200 205

Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu Val Ser
210 215 220

Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr Ile Thr
225 230 235 240

Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys Asp Asp
245 250 255

Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val His Thr
260 265 270

Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser
275 280 285

Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly Lys Glu
290 295 300

Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu Lys
305 310 315 320

Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr
325 330 335

Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr
340 345 350

Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln
355 360 365

Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met
370 375 380

Asn Thr Asn Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val Gln Lys
385 390 395 400

Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu
405 410 415

eolf-seql.txt

Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser Pro Gly
 420 425 430

Lys

<210> 28
 <211> 1302
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic Polynucleotide

<220>
 <221> misc_feature
 <223> Humanized Antibody

<400> 28
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 tgcacagcct ctggattctc cctcagtagt tattggatga actgggtccg ccaggctcca 120
 ggggaggggc tggaatggat cggaaccatt gattctggtg gtaggacgga ctacgcgagc 180
 tgggcaaaag gccgattcac catctccaga acctcgacta cgatggatct gaaaatgacc 240
 agtctgacga ccggggacac ggcccgttat ttctgtgcca gaaattggaa cttgtggggc 300
 caaggcaccc tcgtcacctg ctcgagcgct tctacaaagg gcccatctgt ctatccactg 360
 gccctggat ctgctgccca aactaactcc atggtgacct tgggatgcct ggtcaagggc 420
 tatttccctg agccagtac agtgacctg aactctggat ccctgtccag cgggtgtcac 480
 accttcccag ctgtcctgca gtctgacctc tacactctga gcagctcagt gactgtcccc 540
 tccagcacct ggcccagcga gaccgtcacc tgcaacgttg cccaccggc cagcagcacc 600
 aagggtggaca agaaaattgt gccagggat tgtggttgta agccttgcat atgtacagtc 660
 ccagaagtat catctgtctt catcttcccc ccaaagccca aggatgtgct caccattact 720
 ctgactccta aggtcacgtg tgttgtggta gacatcagca aggatgatcc cgagggtccag 780
 ttcagctggt ttgtagatga tgtggagggtg cacacagctc agacgcaacc ccgggaggag 840
 cagttcaaca gcactttccg ctcagtcagt gaacttccca tcatgcacca ggactggctc 900
 aatggcaagg agttcaaag caggggtcaac agtgcagctt tccctgcccc catcgagaaa 960
 accatctcca aaaccaaagg cagaccgaag gctccacagg tgtacaccat tccacctccc 1020
 aaggagcaga tggccaagga taaagtcagt ctgacctgca tgataacaga cttcttccct 1080
 gaagacatta ctgtggagtg gcagtggaat gggcagccag cggagaacta caagaacact 1140
 cagcccatca tggacacaga tggctcttac ttctgtctaca gcaagctcaa tgtgcagaag 1200
 agcaactggg aggcaggaaa tactttcacc tgctctgtgt tacatgaggg cctgcacaac 1260
 caccatactg agaagagcct ctcccactct cctggtaaata ga 1302

<210> 29
 <211> 452
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Polypeptide

<220>
 <221> MISC_FEATURE
 <223> Humanized Antibody

<400> 29

Met Glu Thr Gly Leu Arg Trp Leu Leu Leu Val Ala Val Leu Lys Gly
 1 5 10 15

Val His Cys Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro
 20 25 30

Gly Thr Pro Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser
 35 40 45

Ser Tyr Trp Met Asn Trp Val Arg Gln Ala Pro Gly Glu Gly Leu Glu
 50 55 60

Trp Ile Gly Thr Ile Asp Ser Gly Gly Arg Thr Asp Tyr Ala Ser Trp
 65 70 75 80

Ala Lys Gly Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Met Asp Leu
 85 90 95

Lys Met Thr Ser Leu Thr Thr Gly Asp Thr Ala Arg Tyr Phe Cys Ala
 100 105 110

Arg Asn Trp Asn Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120 125

Ala Ser Thr Lys Gly Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala
 130 135 140

Ala Gln Thr Asn Ser Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr
 145 150 155 160

Phe Pro Glu Pro Val Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser
 165 170 175

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu
 180 185 190

Ser Ser Ser Val Thr Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val
 195 200 205

Thr Cys Asn Val Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys
 Page 25

210

215

Ile Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro
225 230 235 240

Glu Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu
245 250 255

Thr Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser
260 265 270

Lys Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu
275 280 285

Val His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr
290 295 300

Phe Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn
305 310 315 320

Gly Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro
325 330 335

Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln
340 345 350

Val Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val
355 360 365

Ser Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val
370 375 380

Glu Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln
385 390 395 400

Pro Ile Met Asn Thr Asn Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn
405 410 415

Val Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val
420 425 430

Leu His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His
435 440 445

Ser Pro Gly Lys
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<210> 30
<211> 1359
<212> DNA
<213> Artificial Sequence

eolf-seql.txt

<220>
<223> Synthetic Polynucleotide

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<221> misc_feature
<223> Humanized Antibody

<400> 30
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acagcctctg gattctccct cagtagttat tggatgaact gggtcgcga ggctccaggg 180
gaggggctgg aatggatcgg aaccattgat tctggtggta ggacggacta cgcgagctgg 240
gcaaaaggcc gattcacat ctccagaacc tcgactacga tggatctgaa aatgaccagt 300
ctgacgaccg gggacacggc ccgttatttc tgtgccagaa attggaactt gtggggccaa 360
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cctggatctg ctgcccacac taactccatg gtgaccctgg gatgcctggg caagggctat 480
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ttcccagctg tcctgcagtc tgacctctac actctgagca gctcagtgac tgtcccctcc 600
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cccatcatgg acacagatgg ctcttacttc gtctacagca agtcaatgt gcagaagagc 1260
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catactgaga agagcctctc ccactctcct ggtaaata 1359

<210> 31
<211> 213
<212> PRT
<213> Mus musculus

<400> 31

Gln Ile Val Leu Thr Gln Ser Pro Thr Ile Val Ser Ala Ser Pro Gly
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Glu Lys Val Thr Leu Ile Cys Ser Ala Ser Ser Ser Val Ser Phe Val

Asp Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys Arg Trp Ile Tyr
 35 40 45

Arg Thr Ser Asn Leu Gly Phe Gly Val Pro Ala Arg Phe Ser Gly Gly
 50 55 60

Gly Ser Gly Thr Ser His Ser Leu Thr Ile Ser Arg Met Glu Ala Glu
 65 70 75 80

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Thr Tyr Pro Pro Thr
 85 90 95

Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Arg Ala Asp Ala Ala Pro
 100 105 110

Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln Leu Thr Ser Gly Gly
 115 120 125

Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr Pro Lys Asp Ile Asn
 130 135 140

Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln Asn Gly Val Leu Asn
 145 150 155 160

Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met Ser Ser
 165 170 175

Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg His Asn Ser Tyr Thr
 180 185 190

Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro Ile Val Lys Ser Phe
 195 200 205

Asn Arg Asn Glu Cys
 210

<210> 32
 <211> 642
 <212> DNA
 <213> Mus musculus

<400> 32
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 ttcagtggcg gtggatctgg gacctctcac tctctcacia tcagccgaat ggaggctgaa 240
 gatgctgcca cttattactg ccagcaaagg agtacttacc caccacggt cggtgctggg 300
 accaagctgg aactgaaacg ggctgatgct gcaccaactg tatccatctt cccaccatcc 360

eolf-seql.txt

agtgagcagt taacatctgg aggtgcctca gtcgtgtgct tcttgaacaa cttctacccc 420
aaagacatca atgtcaagtg gaagattgat ggcagtgaac gacaaaatgg cgtcctgaac 480
agttggactg atcaggacag caaagacagc acctacagca tgagcagcac cctcacgttg 540
accaaggacg agtatgaacg acataacagc tatacctgtg aggccactca caagacatca 600
acttcaccca ttgtcaagag cttcaacagg aatgagtgtt ag 642

<210> 33
<211> 235
<212> PRT
<213> Mus musculus

<400> 33

Met His Phe Gln Val Gln Ile Phe Ser Phe Leu Leu Ile Ser Ala Ser
1 5 10 15

Val Ile Val Ser Arg Gly Gln Ile Val Leu Thr Gln Ser Pro Thr Ile
20 25 30

Val Ser Ala Ser Pro Gly Glu Lys Val Thr Leu Ile Cys Ser Ala Ser
35 40 45

Ser Ser Val Ser Phe Val Asp Trp Phe Gln Gln Lys Pro Gly Thr Ser
50 55 60

Pro Lys Arg Trp Ile Tyr Arg Thr Ser Asn Leu Gly Phe Gly Val Pro
65 70 75 80

Ala Arg Phe Ser Gly Gly Gly Ser Gly Thr Ser His Ser Leu Thr Ile
85 90 95

Ser Arg Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg
100 105 110

Ser Thr Tyr Pro Pro Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
115 120 125

Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu
130 135 140

Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe
145 150 155 160

Tyr Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg
165 170 175

Gln Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser
180 185 190

Thr Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu

195

200

205

Arg His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser
 210 215 220

Pro Ile Val Lys Ser Phe Asn Arg Asn Glu Cys
 225 230 235

<210> 34
 <211> 708
 <212> DNA
 <213> Mus musculus

<400> 34
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 gtcaccctaa tctgcagtgc cagttcaagt gtaagtttcg tggactgggt ccagcagaag 180
 ccaggcactt ctcccaaacg ctggatttac agaacatcca acctggggtt tggagtcctt 240
 gctcgcttca gtggcggtgg atctgggacc tctcactctc tcacaatcag ccgaatggag 300
 gctgaagatg ctgccactta ttactgccag caaaggagta cttaccacc caggttcggt 360
 gctgggacca agctggaact gaaacgggct gatgctgcac caactgtatc catcttccca 420
 ccatccagtg agcagttaac atctggaggt gcctcagtcg tgtgcttctt gaacaacttc 480
 taccctaaaag acatcaatgt caagtggaag attgatggca gtgaacgaca aaatggcgctc 540
 ctgaacagtt ggactgatca ggacagcaaa gacagcacct acagcatgag cagcaccctc 600
 acgttgacca aggacgagta tgaacgacat aacagctata cctgtgaggc cactcacaag 660
 acatcaactt caccattgt caagagcttc aacaggaatg agtgttag 708

<210> 35
 <211> 449
 <212> PRT
 <213> Mus musculus

<400> 35

Gln Val Thr Leu Lys Glu Ser Gly Pro Gly Ile Leu Gln Pro Ser Gln
 1 5 10 15

Thr Leu Ser Leu Thr Cys Ser Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg His Pro Ser Gly Lys Asn Leu Glu
 35 40 45

Trp Leu Ala His Ile Trp Trp Asp Asp Val Lys Arg Tyr Asn Pro Val
 50 55 60

Leu Lys Ser Arg Leu Thr Ile Ser Lys Asp Thr Ser Asn Ser Gln Val
 65 70 75 80

eolf-seql.txt

Phe Leu Lys Ile Ala Asn Val Asp Thr Ala Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Asp Phe Asp Tyr Asp Glu Glu Tyr Tyr Ala Met
100 105 110

Asp Tyr Trp Gly Gln Gly Thr Ser Val Ile Val Ser Ser Ala Lys Thr
115 120 125

Thr Pro Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr
130 135 140

Asn Ser Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu
145 150 155 160

Pro Val Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val His
165 170 175

Thr Phe Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser
180 185 190

Val Thr Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys Asn
195 200 205

Val Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val Pro
210 215 220

Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu Val Ser
225 230 235 240

Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr Ile Thr
245 250 255

Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys Asp Asp
260 265 270

Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val His Thr
275 280 285

Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser
290 295 300

Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly Lys Glu
305 310 315 320

Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu Lys
325 330 335

Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr
340 345 350

eolf-seql.txt

Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr
355 360 365

Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln
370 375 380

Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met
385 390 395 400

Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val Gln Lys
405 410 415

Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu
420 425 430

Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser Pro Gly
435 440 445

Lys

<210> 36
<211> 1350
<212> DNA
<213> Mus musculus

<400> 36
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cacccatcag ggaagaatct ggagtggctg gcacacattt ggtgggatga tgtcaagcgc 180
tataaccag tcctgaagag ccgactgact atctccaagg atacctcaa cagccaggta 240
ttcctcaaga tcgccaatgt ggacactgca gatactgcca catactactg tgctcgaata 300
gaggactttg attacgacga ggagtattat gctatggact actgggggtca aggaacctca 360
gtcatcgtct cctcagccaa aacgacaccc ccatctgtct atccactggc ccctggatct 420
gctgccc aaa ctaactccat ggtgaccctg ggatgcctgg tcaagggcta tttccctgag 480
ccagtgcag tgacctgaa ctctggatcc ctgtccagcg gtgtgcacac cttcccagct 540
gtcctgcagt ctgacctcta cactctgagc agctcagtga ctgtcccctc cagcacctgg 600
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aaaattgtgc ccagggattg tgggtgtaag ccttgcatat gtacagtccc agaagtatca 720
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actttccgct cagtcagtga acttcccatc atgcaccagg actgggtcaa tggcaaggag 960
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eolf-seql.txt

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accaaaggca gaccgaaggc tccacaggtg tacaccattc cacctcccaa ggagcagatg      1080
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gtggagtggc agtggaatgg gcagccagcg gagaactaca agaacactca gcccatcatg      1200
gacacagatg gctcttactt cgtctacagc aagctcaatg tgcagaagag caactgggag      1260
gcaggaaata ctttcacctg ctctgtgtta catgagggcc tgcacaacca ccatactgag      1320
aagagcctct cccactctcc tggtaaataga                                     1350

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<210> 37
 <211> 468
 <212> PRT
 <213> Mus musculus

<400> 37

Met Gly Arg Leu Thr Ser Ser Phe Leu Leu Leu Ile Val Pro Ala Tyr
 1 5 10 15

Val Leu Ser Gln Val Thr Leu Lys Glu Ser Gly Pro Gly Ile Leu Gln
 20 25 30

Pro Ser Gln Thr Leu Ser Leu Thr Cys Ser Phe Ser Gly Phe Ser Leu
 35 40 45

Ser Thr Ser Gly Met Gly Val Gly Trp Ile Arg His Pro Ser Gly Lys
 50 55 60

Asn Leu Glu Trp Leu Ala His Ile Trp Trp Asp Asp Val Lys Arg Tyr
 65 70 75 80

Asn Pro Val Leu Lys Ser Arg Leu Thr Ile Ser Lys Asp Thr Ser Asn
 85 90 95

Ser Gln Val Phe Leu Lys Ile Ala Asn Val Asp Thr Ala Asp Thr Ala
 100 105 110

Thr Tyr Tyr Cys Ala Arg Ile Glu Asp Phe Asp Tyr Asp Glu Glu Tyr
 115 120 125

Tyr Ala Met Asp Tyr Trp Gly Gln Gly Thr Ser Val Ile Val Ser Ser
 130 135 140

Ala Lys Thr Thr Pro Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala
 145 150 155 160

Ala Gln Thr Asn Ser Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr
 165 170 175

Phe Pro Glu Pro Val Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser
 180 185 190

eolf-seql.txt

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu
195 200 205

Ser Ser Ser Val Thr Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val
210 215 220

Thr Cys Asn Val Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys
225 230 235 240

Ile Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro
245 250 255

Glu Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu
260 265 270

Thr Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser
275 280 285

Lys Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu
290 295 300

Val His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr
305 310 315 320

Phe Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn
325 330 335

Gly Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro
340 345 350

Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln
355 360 365

Val Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val
370 375 380

Ser Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val
385 390 395 400

Glu Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln
405 410 415

Pro Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn
420 425 430

Val Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val
435 440 445

Leu His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His
450 455 460

eolf-seql.txt

Ser Pro Gly Lys
465

<210> 38
<211> 1407
<212> DNA
<213> Mus musculus

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ccatcaggga agaatctgga gtggctggca cacatttggg gggatgatgt caagcgctat      240
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ctcaagatcg ccaatgtgga cactgcagat actgccacat actactgtgc tcgaatagag      360
gactttgatt acgacgagga gtattatgct atggactact ggggtcaagg aacctcagtc      420
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gtcttcatct tcccccaaaa gcccaaggat gtgctcacca ttactctgac tcctaaggtc      840
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gagtggcagt ggaatgggca gccagcggag aactacaaga aactcagcc catcatggac     1260
acagatggct cttacttcgt ctacagcaag ctcaatgtgc agaagagcaa ctgggaggca     1320
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<210> 39
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<212> PRT
<213> Mus musculus

<400> 39

Asp His Tyr Met Ser

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5

<210> 40
 <211> 17
 <212> PRT
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<400> 40

Asp Ile Asn Pro Tyr Ser Gly Glu Thr Thr Tyr Asn Gln Lys Phe Lys
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Gly

<210> 41
 <211> 10
 <212> PRT
 <213> Mus musculus

<400> 41

Asp Asp Tyr Asp Ala Ser Pro Phe Ala Tyr
 1 5 10

<210> 42
 <211> 11
 <212> PRT
 <213> Mus musculus

<400> 42

Gln Ala Ser Gln Gly Thr Ser Ile Asn Leu Asn
 1 5 10

<210> 43
 <211> 7
 <212> PRT
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<400> 43

Gly Ser Ser Asn Leu Glu Asp
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<210> 44
 <211> 9
 <212> PRT
 <213> Mus musculus

<400> 44

Leu Gln His Ser Tyr Leu Pro Tyr Thr
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<210> 45
 <211> 5
 <212> PRT
 <213> Mus musculus

<400> 45

eolf-seql.txt

Asp Cys Tyr Met Asn
1 5

<210> 46
<211> 17
<212> PRT
<213> Mus musculus

<400> 46

Asp Ile Asn Pro Phe Asn Gly Gly Thr Thr Tyr Asn Gln Lys Phe Lys
1 5 10 15

Gly

<210> 47
<211> 16
<212> PRT
<213> Mus musculus

<400> 47

Ser His Tyr Tyr Phe Asp Gly Arg Val Pro Trp Asp Ala Met Asp Tyr
1 5 10 15

<210> 48
<211> 15
<212> PRT
<213> Mus musculus

<400> 48

Lys Ala Ser Gln Ser Val Asp Tyr Asp Gly Asp Ser Tyr Met Asn
1 5 10 15

<210> 49
<211> 7
<212> PRT
<213> Mus musculus

<400> 49

Ala Ala Ser Asn Leu Glu Ser
1 5

<210> 50
<211> 9
<212> PRT
<213> Mus musculus

<400> 50

Gln Gln Ser Asn Glu Asp Pro Trp Thr
1 5

<210> 51
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
 <223> Synthetic Polypeptide

<220>
 <221> MISC_FEATURE
 <223> Rabbit-mouse chimera

<400> 51

Ser Tyr Trp Met Asn
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<210> 52
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Polypeptide

<220>
 <221> MISC_FEATURE
 <223> Rabbit-mouse chimera

<400> 52

Thr Ile Asp Ser Gly Gly Arg Thr Asp Tyr Ala Ser Trp Ala Lys Gly
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<210> 53
 <211> 4
 <212> PRT
 <213> Rabbit-Mouse Chimera

<400> 53

Asn Trp Asn Leu
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<210> 54
 <211> 13
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Polypeptide

<220>
 <221> MISC_FEATURE
 <223> Rabbit-mouse chimera

<400> 54

Gln Ser Ser Gln Ser Val Tyr Asp Asn Asn Trp Leu Ala
 1 5 10

<210> 55
 <211> 7
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Polypeptide

<220>
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 <223> Rabbit-mouse chimera

<400> 55

Asp Ala Ser Asp Leu Ala Ser
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<210> 56
 <211> 10
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<220>
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 <223> Rabbit-mouse chimera

<400> 56

Gln Gly Ala Tyr Asn Asp Val Ile Tyr Ala
 1 5 10

<210> 57
 <211> 7
 <212> PRT
 <213> Mus musculus

<400> 57

Thr Ser Gly Met Gly Val Gly
 1 5

<210> 58
 <211> 16
 <212> PRT
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<400> 58

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<210> 59
 <211> 14
 <212> PRT
 <213> Mus musculus

<400> 59

Glu Asp Phe Asp Tyr Asp Glu Glu Tyr Tyr Ala Met Asp Tyr
 1 5 10

<210> 60

<211> 10
 <212> PRT
 <213> Mus musculus

<400> 60

Ser Ala Ser Ser Ser Val Ser Phe Val Asp
 1 5 10

<210> 61
 <211> 7
 <212> PRT
 <213> Mus musculus

<400> 61

Arg Thr Ser Asn Leu Gly Phe
 1 5

<210> 62
 <211> 9
 <212> PRT
 <213> Mus musculus

<400> 62

Gln Gln Arg Ser Thr Tyr Pro Pro Thr
 1 5

<210> 63
 <211> 20
 <212> PRT
 <213> Homo sapiens

<400> 63

Cys Gly Pro Ala Arg Leu Leu Pro Asn Ala Ile Gly Arg Gly Lys Trp
 1 5 10 15

Trp Arg Pro Ser
 20

<210> 64
 <211> 20
 <212> PRT
 <213> Homo sapiens

<400> 64

Gly Pro Ala Arg Leu Leu Pro Asn Ala Ile Gly Arg Gly Lys Trp Trp
 1 5 10 15

Arg Pro Ser Gly
 20

<210> 65
 <211> 20
 <212> PRT
 <213> Homo sapiens

<400> 65

eolf-seql.txt

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1 5 10 15

Pro Ser Gly Pro
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<210> 66
<211> 20
<212> PRT
<213> Homo sapiens
<400> 66

Ala Arg Leu Leu Pro Asn Ala Ile Gly Arg Gly Lys Trp Trp Arg Pro
1 5 10 15

Ser Gly Pro Asp
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<210> 67
<211> 20
<212> PRT
<213> Homo sapiens
<400> 67

Arg Leu Leu Pro Asn Ala Ile Gly Arg Gly Lys Trp Trp Arg Pro Ser
1 5 10 15

Gly Pro Asp Phe
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<210> 68
<211> 20
<212> PRT
<213> Homo sapiens
<400> 68

Leu Leu Pro Asn Ala Ile Gly Arg Gly Lys Trp Trp Arg Pro Ser Gly
1 5 10 15

Pro Asp Phe Arg
20

<210> 69
<211> 20
<212> PRT
<213> Homo sapiens
<400> 69

Leu Pro Asn Ala Ile Gly Arg Gly Lys Trp Trp Arg Pro Ser Gly Pro
1 5 10 15

Asp Phe Arg Cys
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eolf-seql.txt

<210> 70
 <211> 14
 <212> PRT
 <213> Homo sapiens

<400> 70

Ser Ala Lys Pro Val Thr Glu Leu Val Cys Ser Gly Gln Cys
 1 5 10

<210> 71
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 <212> PRT
 <213> Homo sapiens

<400> 71

Leu Val Ala Ser Cys Lys Cys
 1 5

<210> 72
 <211> 8
 <212> PRT
 <213> Homo sapiens

<400> 72

Cys Arg Glu Leu His Phe Thr Arg
 1 5

<210> 73
 <211> 7
 <212> PRT
 <213> Homo sapiens

<400> 73

Cys Ile Pro Asp Arg Tyr Arg
 1 5

<210> 74
 <211> 399
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic Polynucleotide

<220>
 <221> misc_feature
 <223> Humanized Antibody Sequence

<400> 74
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 acatttgctc aagttctgac ccagagtcca agcagtctct ccgccagcgt aggcgatcgt 120
 gtgactatta cctgtcaatc tagtcagagc gtgtatgata acaattggct ggcgtggtac 180
 cagcaaaaac cgggcaaagc cccgaagctg ctcatctatg acgcgtccga tctggctagc 240
 ggtgtgccaa gccgtttcag tggcagtggc agcggtagct actttaccct cacaatttcg 300

eolf-seql.txt

tctctccagc cggaagattt cgccacttac tattgtcaag gtgcttaca cgaatgtgatt 360
tatgccttcg gtcagggcac taaagtagaa atcaaacgt 399

<210> 75
<211> 133
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Humanized Antibody Sequence

<400> 75

Met Asp Thr Arg Ala Pro Thr Gln Leu Leu Gly Leu Leu Leu Trp
1 5 10 15

Leu Pro Gly Ala Thr Phe Ala Gln Val Leu Thr Gln Ser Pro Ser Ser
20 25 30

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ser Ser
35 40 45

Gln Ser Val Tyr Asp Asn Asn Trp Leu Ala Trp Tyr Gln Gln Lys Pro
50 55 60

Gly Lys Ala Pro Lys Leu Leu Ile Tyr Asp Ala Ser Asp Leu Ala Ser
65 70 75 80

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
85 90 95

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
100 105 110

Gln Gly Ala Tyr Asn Asp Val Ile Tyr Ala Phe Gly Gln Gly Thr Lys
115 120 125

Val Glu Ile Lys Arg
130

<210> 76
<211> 393
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Polynucleotide

<220>
<221> misc_feature

<223> Humanized Antibody Sequence

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<400> 76
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gtgcagctgt tggagtctgg aggcgggctt gtccagcctg gagggagcct gcgtctctct      120
tgtgcagcaa gcggcttcag cttatcctct tactggatga attgggtgcg gcaggcacct      180
gggaagggcc tggagtgggt gggcaccatt gattccggag gccgtacaga ctacgcgtct      240
tgggcaaagg gccgtttcac catttccgcg gacaactcca aaaataccat gtacctccag      300
atgaactctc tccgcgcaga ggacacagca cgttattact gtgcacgcaa ctggaatctg      360
tgggggtcaag gtactcttgt aacagtctcg agc                                     393

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<210> 77

<211> 131

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Polypeptide

<220>

<221> MISC_FEATURE

<223> Humanized Antibody Sequence

<400> 77

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Met Glu Thr Gly Leu Arg Trp Leu Leu Leu Val Ala Val Leu Lys Gly
1           5           10          15

Val His Cys Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln
          20          25          30

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Leu
          35          40          45

Ser Ser Tyr Trp Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
50          55          60

Glu Trp Val Gly Thr Ile Asp Ser Gly Gly Arg Thr Asp Tyr Ala Ser
65          70          75          80

Trp Ala Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
          85          90          95

Met Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Arg Tyr
          100         105         110

Tyr Cys Ala Arg Asn Trp Asn Leu Trp Gly Gln Gly Thr Leu Val Thr
          115         120         125

Val Ser Ser
          130

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eolf-seql.txt

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 <211> 11
 <212> PRT
 <213> Mus musculus

<400> 78

Arg Ala Ser Gln Asp Ile Ser Asn Tyr Leu Asn
 1 5 10

<210> 79
 <211> 7
 <212> PRT
 <213> Mus musculus

<400> 79

Tyr Thr Ser Arg Leu Leu Ser
 1 5

<210> 80
 <211> 9
 <212> PRT
 <213> Mus musculus

<400> 80

Gln Gln Gly Asp Thr Leu Pro Tyr Thr
 1 5

<210> 81
 <211> 11
 <212> PRT
 <213> Mus musculus

<400> 81

Arg Ala Ser Gln Asp Ile Ser Asn Tyr Leu Asn
 1 5 10

<210> 82
 <211> 24
 <212> PRT
 <213> Rattus norvegicus

<400> 82

Gln Gly Trp Gln Ala Phe Lys Asn Asp Ala Thr Glu Ile Ile Pro Gly
 1 5 10 15

Leu Arg Glu Tyr Pro Glu Pro Pro
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<210> 83
 <211> 20
 <212> PRT
 <213> Rattus norvegicus

<400> 83

Thr Glu Ile Ile Pro Gly Leu Arg Glu Tyr Pro Glu Pro Pro Gln Glu
 Page 45

1

5

10

15

Leu Glu Asn Asn
20

<210> 84
<211> 20
<212> PRT
<213> Rattus norvegicus

<400> 84

Pro Glu Pro Pro Gln Glu Leu Glu Asn Asn Gln Thr Met Asn Arg Ala
1 5 10 15

Glu Asn Gly Gly
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<210> 85
<211> 20
<212> PRT
<213> Rattus norvegicus

<400> 85

Glu Asn Gly Gly Arg Pro Pro His His Pro Tyr Asp Thr Lys Asp Val
1 5 10 15

Ser Glu Tyr Ser
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<210> 86
<211> 14
<212> PRT
<213> Rattus norvegicus

<400> 86

Cys Arg Glu Leu His Tyr Thr Arg Phe Val Thr Asp Gly Pro
1 5 10

<210> 87
<211> 25
<212> PRT
<213> Rattus norvegicus

<400> 87

Cys Arg Glu Leu His Tyr Thr Arg Phe Val Thr Asp Gly Pro Ser Arg
1 5 10 15

Ser Ala Lys Pro Val Thr Glu Leu Val
20 25

<210> 88
<211> 23
<212> PRT
<213> Rattus norvegicus

eolf-seql.txt

<400> 88

Cys Arg Ser Ala Lys Pro Val Thr Glu Leu Val Ser Ser Gly Gln Ser
1 5 10 15

Gly Pro Arg Ala Arg Leu Leu
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<210> 89

<211> 25

<212> PRT

<213> Rattus norvegicus

<400> 89

Cys Gly Pro Ala Arg Leu Leu Pro Asn Ala Ile Gly Arg Val Lys Trp
1 5 10 15

Trp Arg Pro Asn Gly Pro Asp Phe Arg
20 25

<210> 90

<211> 20

<212> PRT

<213> Rattus norvegicus

<400> 90

Arg Ala Gln Arg Val Gln Leu Leu Cys Pro Gly Gly Ala Ala Pro Arg
1 5 10 15

Ser Arg Lys Val
20

<210> 91

<211> 16

<212> PRT

<213> Rattus norvegicus

<400> 91

Pro Gly Gly Ala Ala Pro Arg Ser Arg Lys Val Arg Leu Val Ala Ser
1 5 10 15

<210> 92

<211> 23

<212> PRT

<213> Rattus norvegicus

<400> 92

Lys Arg Leu Thr Arg Phe His Asn Gln Ser Glu Leu Lys Asp Phe Gly
1 5 10 15

Pro Glu Thr Ala Arg Pro Gln
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<210> 93

<211> 16

eolf-seql.txt

<212> PRT
<213> Rattus norvegicus

<400> 93

Ile Pro Asp Arg Tyr Ala Gln Arg Val Gln Leu Leu Ser Pro Gly Gly
1 5 10 15

<210> 94
<211> 24
<212> PRT
<213> Rattus norvegicus

<400> 94

Ser Glu Leu Lys Asp Phe Gly Pro Glu Thr Ala Arg Pro Gln Lys Gly
1 5 10 15

Arg Lys Pro Arg Pro Arg Ala Arg
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<210> 95
<211> 23
<212> PRT
<213> Rattus norvegicus

<400> 95

Lys Gly Arg Lys Pro Arg Pro Arg Ala Arg Gly Ala Lys Ala Asn Gln
1 5 10 15

Ala Glu Leu Glu Asn Ala Tyr
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<210> 96
<211> 18
<212> PRT
<213> Rattus norvegicus

<400> 96

Pro Asn Ala Ile Gly Arg Val Lys Trp Trp Arg Pro Asn Gly Pro Asp
1 5 10 15

Phe Arg

<210> 97
<211> 22
<212> PRT
<213> Rattus norvegicus

<400> 97

Lys Trp Trp Arg Pro Asn Gly Pro Asp Phe Arg Cys Ile Pro Asp Arg
1 5 10 15

Tyr Arg Ala Gln Arg Val
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eolf-seql.txt

<210> 98
 <211> 213
 <212> PRT
 <213> Rattus norvegicus

<400> 98

Met Gln Leu Ser Leu Ala Pro Cys Leu Ala Cys Leu Leu Val His Ala
 1 5 10 15

Ala Phe Val Ala Val Glu Ser Gln Gly Trp Gln Ala Phe Lys Asn Asp
 20 25 30

Ala Thr Glu Ile Ile Pro Gly Leu Arg Glu Tyr Pro Glu Pro Pro Gln
 35 40 45

Glu Leu Glu Asn Asn Gln Thr Met Asn Arg Ala Glu Asn Gly Gly Arg
 50 55 60

Pro Pro His His Pro Tyr Asp Thr Lys Asp Val Ser Glu Tyr Ser Cys
 65 70 75 80

Arg Glu Leu His Tyr Thr Arg Phe Val Thr Asp Gly Pro Cys Arg Ser
 85 90 95

Ala Lys Pro Val Thr Glu Leu Val Cys Ser Gly Gln Cys Gly Pro Ala
 100 105 110

Arg Leu Leu Pro Asn Ala Ile Gly Arg Val Lys Trp Trp Arg Pro Asn
 115 120 125

Gly Pro Asp Phe Arg Cys Ile Pro Asp Arg Tyr Arg Ala Gln Arg Val
 130 135 140

Gln Leu Leu Cys Pro Gly Gly Ala Ala Pro Arg Ser Arg Lys Val Arg
 145 150 155 160

Leu Val Ala Ser Cys Lys Cys Lys Arg Leu Thr Arg Phe His Asn Gln
 165 170 175

Ser Glu Leu Lys Asp Phe Gly Pro Glu Thr Ala Arg Pro Gln Lys Gly
 180 185 190

Arg Lys Pro Arg Pro Arg Ala Arg Gly Ala Lys Ala Asn Gln Ala Glu
 195 200 205

Leu Glu Asn Ala Tyr
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<210> 99
 <211> 7
 <212> PRT
 <213> Mus musculus

<400> 99

Tyr Thr Ser Arg Leu His Ser
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<210> 100
<211> 9
<212> PRT
<213> Mus musculus

<400> 100

Gln Gln Gly Asp Thr Leu Pro Tyr Thr
1 5

<210> 101
<211> 11
<212> PRT
<213> Mus musculus

<400> 101

Arg Ala Ser Gln Val Ile Thr Asn Tyr Leu Tyr
1 5 10

<210> 102
<211> 7
<212> PRT
<213> Mus musculus

<400> 102

Tyr Thr Ser Arg Leu His Ser
1 5

<210> 103
<211> 9
<212> PRT
<213> Mus musculus

<400> 103

Gln Gln Gly Asp Thr Leu Pro Tyr Thr
1 5

<210> 104
<211> 11
<212> PRT
<213> Mus musculus

<400> 104

Arg Ala Ser Gln Asp Ile Ser Asn Tyr Leu Asn
1 5 10

<210> 105
<211> 7
<212> PRT
<213> Mus musculus

<400> 105

Tyr Thr Ser Arg Leu Leu Ser
1 5

<210> 106
<211> 9
<212> PRT
<213> Mus musculus

<400> 106

Gln Gln Gly Asp Thr Leu Pro Tyr Thr
1 5

<210> 107
<211> 11
<212> PRT
<213> Mus musculus

<400> 107

Arg Ala Ser Gln Asp Ile Ser Asn Tyr Leu Asn
1 5 10

<210> 108
<211> 7
<212> PRT
<213> Mus musculus

<400> 108

Tyr Thr Ser Arg Leu Phe Ser
1 5

<210> 109
<211> 9
<212> PRT
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<400> 109

Gln Gln Gly Asp Thr Leu Pro Tyr Thr
1 5

<210> 110
<211> 11
<212> PRT
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<400> 110

Arg Ala Ser Gln Asp Ile Ser Asn Tyr Leu Asn
1 5 10

<210> 111
<211> 7
<212> PRT
<213> Mus musculus

<400> 111

Tyr Thr Ser Arg Leu Leu Ser

1

5

<210> 112
 <211> 9
 <212> PRT
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<400> 112

Gln Gln Gly Asp Thr Leu Pro Tyr Thr
 1 5

<210> 113
 <211> 11
 <212> PRT
 <213> Mus musculus

<400> 113

Arg Ala Ser Gln Asp Ile Ser Asn Tyr Leu Asn
 1 5 10

<210> 114
 <211> 7
 <212> PRT
 <213> Mus musculus

<400> 114

Tyr Thr Ser Thr Leu Gln Ser
 1 5

<210> 115
 <211> 9
 <212> PRT
 <213> Mus musculus

<400> 115

Gln Gln Gly Asp Thr Leu Pro Tyr Thr
 1 5

<210> 116
 <211> 12
 <212> PRT
 <213> Mus musculus

<400> 116

Ser Val Ser Ser Ser Ile Ser Ser Ser Asn Leu His
 1 5 10

<210> 117
 <211> 213
 <212> PRT
 <213> Mus musculus

<400> 117

Gln Ile Val Leu Ser Gln Ser Pro Ala Ile Leu Ser Thr Ser Pro Gly
 1 5 10 15

eolf-seql.txt

Glu Lys Val Thr Met Thr Cys Arg Ala Ser Ser Ser Val Tyr Tyr Met
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Ser Ser Pro Lys Pro Trp Ile Tyr
35 40 45

Ala Thr Ser Asn Leu Ala Ser Gly Val Pro Val Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Thr Arg Val Glu Ala Glu
65 70 75 80

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asp Pro Leu Thr
85 90 95

Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Arg Ala Asp Ala Ala Pro
100 105 110

Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln Leu Thr Ser Gly Gly
115 120 125

Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr Pro Lys Asp Ile Asn
130 135 140

Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln Asn Gly Val Leu Asn
145 150 155 160

Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met Ser Ser
165 170 175

Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg His Asn Ser Tyr Thr
180 185 190

Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro Ile Val Lys Ser Phe
195 200 205

Asn Arg Asn Glu Cys
210

<210> 118
<211> 642
<212> DNA
<213> Mus musculus

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tcctccccca aaccctggat ttatgccaca tccaacctgg cttctggagt ccctgttcgc 180
ttcagtgga gtgggtctgg gacctttac tctctcacia tcaccagagt ggaggctgaa 240
gatgctgcca cttattactg ccagcagtg agtagtgacc cactcacgtt cgggtgctggg 300

eolf-seql.txt

accaagctgg agctgaaacg ggctgatgct gcaccaactg tatccatctt cccaccatcc 360
 agtgagcagt taacatctgg aggtgcctca gtcgtgtgct tcttgaacaa cttctacccc 420
 aaagacatca atgtcaagtg gaagattgat ggcagtgaac gacaaaatgg cgtcctgaac 480
 agttggactg atcaggacag caaagacagc acctacagca tgagcagcac cctcacgttg 540
 accaaggacg agtatgaacg acataacagc tatacctgtg aggccactca caagacatca 600
 acttcaccca ttgtcaagag cttcaacagg aatgagtgtt ag 642

<210> 119
 <211> 235
 <212> PRT
 <213> Mus musculus

<400> 119

Met Asp Phe Gln Val Gln Ile Phe Ser Phe Leu Leu Ile Ser Ala Ser
 1 5 10 15

Val Ile Met Ser Arg Gly Gln Ile Val Leu Ser Gln Ser Pro Ala Ile
 20 25 30

Leu Ser Thr Ser Pro Gly Glu Lys Val Thr Met Thr Cys Arg Ala Ser
 35 40 45

Ser Ser Val Tyr Tyr Met His Trp Tyr Gln Gln Lys Pro Gly Ser Ser
 50 55 60

Pro Lys Pro Trp Ile Tyr Ala Thr Ser Asn Leu Ala Ser Gly Val Pro
 65 70 75 80

Val Arg Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile
 85 90 95

Thr Arg Val Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp
 100 105 110

Ser Ser Asp Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
 115 120 125

Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu
 130 135 140

Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe
 145 150 155 160

Tyr Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg
 165 170 175

Gln Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser
 180 185 190

eolf-seql.txt

Thr Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu
195 200 205

Arg His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser
210 215 220

Pro Ile Val Lys Ser Phe Asn Arg Asn Glu Cys
225 230 235

<210> 120
<211> 708
<212> DNA
<213> Mus musculus

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aggggacaaa ttgttctctc ccagtctcca gcaatcctgt ctacatctcc aggggagaag 120
gtcacaatga cttgcagggc cagctcaagt gtatattaca tgcactggta ccagcagaag 180
ccaggatcct cccccaacc ctggatttat gccacatcca acctggcttc tggagtcctt 240
gttcgcttca gtggcagtgg gtctgggacc tcttactctc tcacaatcac cagagtggag 300
gctgaagatg ctgccactta ttactgccag cagtggagta gtgaccact cacgttcggt 360
gctgggacca agctggagct gaaacgggct gatgctgcac caactgtatc catcttccca 420
ccatccagtg agcagttaac atctggaggt gcctcagtcg tgtgcttctt gaacaacttc 480
taccctaaag acatcaatgt caagtggaag attgatggca gtgaacgaca aaatggcgctc 540
ctgaacagtt ggactgatca ggacagcaaa gacagcacct acagcatgag cagcacctc 600
acgttgacca aggacgagta tgaacgacat aacagctata cctgtgaggc cactcacaag 660
acatcaactt caccatttgt caagagcttc aacaggaatg agtgttag 708

<210> 121
<211> 445
<212> PRT
<213> Mus musculus

<400> 121
Glu Val Gln Val Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Asn Ile Lys Asp Tyr
20 25 30

Phe Ile His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
35 40 45

Gly Arg Leu Asp Pro Glu Asp Gly Glu Ser Asp Tyr Ala Pro Lys Phe
50 55 60

Gln Asp Lys Ala Ile Met Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr
Page 55

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65              70              75              80
Leu Gln Leu Arg Ser Leu Thr Ser Glu Asp Thr Ala Ile Tyr Tyr Cys
      85              90              95
Glu Arg Glu Asp Tyr Asp Gly Thr Tyr Thr Phe Phe Pro Tyr Trp Gly
      100              105              110
Gln Gly Thr Leu Val Thr Val Ser Ala Ala Lys Thr Thr Pro Pro Ser
      115              120              125
Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr Asn Ser Met Val
      130              135              140
Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val Thr Val
      145              150              155
Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr Phe Pro Ala
      165              170              175
Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val Thr Val Pro
      180              185              190
Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys Asn Val Ala His Pro
      195              200              205
Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val Pro Arg Asp Cys Gly
      210              215              220
Cys Lys Pro Cys Ile Cys Thr Val Pro Glu Val Ser Ser Val Phe Ile
      225              230              235
Phe Pro Pro Lys Pro Lys Asp Val Leu Thr Ile Thr Leu Thr Pro Lys
      245              250              255
Val Thr Cys Val Val Val Asp Ile Ser Lys Asp Asp Pro Glu Val Gln
      260              265              270
Phe Ser Trp Phe Val Asp Asp Val Glu Val His Thr Ala Gln Thr Gln
      275              280              285
Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser Val Ser Glu Leu
      290              295              300
Pro Ile Met His Gln Asp Trp Leu Asn Gly Lys Glu Phe Lys Cys Arg
      305              310              315              320
Val Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys
      325              330              335
Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr Ile Pro Pro Pro

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340

345

350

Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr Cys Met Ile Thr
 355 360 365

Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln Trp Asn Gly Gln
 370 375 380

Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met Asp Thr Asp Gly
 385 390 395 400

Ser Tyr Phe Ile Tyr Ser Lys Leu Asn Val Gln Lys Ser Asn Trp Glu
 405 410 415

Ala Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu Gly Leu His Asn
 420 425 430

His His Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys
 435 440 445

<210> 122
 <211> 1338
 <212> DNA
 <213> Mus musculus

<400> 122
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 cctgaacagg gcctggagtg gattggaagg cttgatcctg aggatgggtga aagtgattat 180
 gccccgaagt tccaggacaa ggccattatg acagcagaca catcatccaa cacagcctat 240
 cttcagctca gaagcctgac atctgaggac actgccatct attattgtga gagagaggac 300
 tacgatggta cctacacctt ttttccttac tggggccaag ggactctgggt cactgtctct 360
 gcagccaaaa cgacaccccc atctgtctat cactggccc ctggatctgc tgcccaaact 420
 aactccatgg tgaccctggg atgcctggtc aagggctatt tccctgagcc agtgacagtg 480
 acctggaact ctggatccct gtccagcggg gtgcacacct tcccagctgt cctgcagtct 540
 gacctctaca ctctgagcag ctcagtgact gtcccctcca gcacctggcc cagcgagacc 600
 gtcacctgca acgttgccca cccggccagc agcaccaagg tggacaagaa aattgtgccc 660
 agggattgtg gttgtaagcc ttgcatatgt acagtcccag aagtatcatc tgtcttcac 720
 ttcccccaa agcccaagga tgtgctcacc attactctga ctccctaaggt cacgtgtgtt 780
 gtggtagaca tcagcaagga tgatcccag gtccagttca gctggtttgt agatgatgtg 840
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 gtcagtgaac ttcccatcat gcaccaggac tggctcaatg gcaaggagtt caaatgcagg 960
 gtcaacagtg cagctttccc tgcccccatc gagaaaacca tctccaaaac caaaggcaga 1020
 ccgaaggctc cacaggtgta caccattcca cctcccaagg agcagatggc caaggataaa 1080

eolf-seql.txt

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gtcagtctga cctgcatgat aacagacttc ttccctgaag acattactgt ggagtggcag      1140
tggaatgggc agccagcgga gaactacaag aacactcagc ccatcatgga cacagatggc      1200
tcttacttca tctacagcaa gctcaatgtg cagaagagca actgggaggc aggaaatact      1260
ttcacctgct ctgtgttaca tgagggcctg cacaaccacc atactgagaa gagcctctcc      1320
cactctcctg gtaaataga                                          1338
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<210> 123
 <211> 464
 <212> PRT
 <213> Mus musculus

<400> 123

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 1 5 10 15

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 20 25 30

Pro Gly Ala Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Asn Ile
 35 40 45

Lys Asp Tyr Phe Ile His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu
 50 55 60

Glu Trp Ile Gly Arg Leu Asp Pro Glu Asp Gly Glu Ser Asp Tyr Ala
 65 70 75 80

Pro Lys Phe Gln Asp Lys Ala Ile Met Thr Ala Asp Thr Ser Ser Asn
 85 90 95

Thr Ala Tyr Leu Gln Leu Arg Ser Leu Thr Ser Glu Asp Thr Ala Ile
 100 105 110

Tyr Tyr Cys Glu Arg Glu Asp Tyr Asp Gly Thr Tyr Thr Phe Phe Pro
 115 120 125

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala Ala Lys Thr Thr
 130 135 140

Pro Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr Asn
 145 150 155 160

Ser Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro
 165 170 175

Val Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr
 180 185 190

Phe Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val

195

200

205

Thr Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys Asn Val
 210 215 220
 Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val Pro Arg
 225 230 235 240
 Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu Val Ser Ser
 245 250 255
 Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr Ile Thr Leu
 260 265 270
 Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys Asp Asp Pro
 275 280 285
 Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val His Thr Ala
 290 295 300
 Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser Val
 305 310 315 320
 Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly Lys Glu Phe
 325 330 335
 Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu Lys Thr
 340 345 350
 Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr Ile
 355 360 365
 Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr Cys
 370 375 380
 Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln Trp
 385 390 395 400
 Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met Asp
 405 410 415
 Thr Asp Gly Ser Tyr Phe Ile Tyr Ser Lys Leu Asn Val Gln Lys Ser
 420 425 430
 Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu Gly
 435 440 445
 Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys
 450 455 460

<210> 124

eolf-seql.txt

<211> 1395
<212> DNA
<213> Mus musculus

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<400> 124
atgaaatgca gctgggtcat cttcttcctg atggcagtgg ttacaggggt caattcagag      60
gttcaggtgc agcagtctgg gccagaactt gtgaagccag gggcctcagt caagttgtcc      120
tgcacagctt ctggcttcaa cattaagac tactttatac actgggtgaa gcagaggcct      180
gaacagggcc tggagtggat tggaaggctt gatcctgagg atggtgaaag tgattatgcc      240
ccgaagtcc aggacaaggc cattatgaca gcagacacat catccaacac agcctatctt      300
cagctcagaa gcctgacatc tgaggacact gccatctatt attgtgagag agaggactac      360
gatggtacct acaccttttt tccttactgg ggccaagga ctctgggtcac tgtctctgca      420
gccaaaacga caccctcatc tgtctatcca ctggcccctg gatctgctgc ccaaactaac      480
tccatggtga ccctgggatg cctgggtcaag ggctatttcc ctgagccagt gacagtgacc      540
tggaactctg gatccctgtc cagcgggtgtg cacaccttcc cagctgtcct gcagtctgac      600
ctctacactc tgagcagctc agtgactgtc ccctccagca cctggcccag cgagaccgtc      660
acctgcaacg ttgccaccc ggccagcagc accaaggtgg acaagaaaat tgtgcccagg      720
gattgtgggt gtaagccttg catatgtaca gtcccagaag tatcatctgt cttcatcttc      780
cccccaaagc ccaaggatgt gtcaccatt actctgactc ctaagggtcac gtgtgttgtg      840
gtagacatca gcaaggatga tcccagagtc cagttcagct ggttttaga tgatgtggag      900
gtgcacacag ctgagacgca accccgggag gagcagttca acagcacttt ccgctcagtc      960
agtgaacttc ccatcatgca ccaggactgg ctcaatggca aggagttaa atgcagggtc     1020
aacagtgcag ctttcctgc ccccatcgag aaaaccatct ccaaaaccaa aggcagaccg     1080
aaggctccac aggtgtacac cattccacct cccaaggagc agatggccaa ggataaagtc     1140
agtctgacct gcatgataac agacttcttc cctgaagaca ttactgtgga gtggcagtgg     1200
aatgggcagc cagcggagaa ctacaagaac actcagccca tcatggacac agatggctct     1260
tacttcatct acagcaagct caatgtgcag aagagcaact gggaggcagg aaatactttc     1320
acctgctctg tgttacatga gggcctgcac aaccaccata ctgagaagag cctctccac      1380
tctctggtga aatga                                          1395

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<210> 125
<211> 215
<212> PRT
<213> Mus musculus

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<400> 125
Glu Ile Val Leu Thr Gln Ser Pro Ala Leu Met Ala Ala Ser Pro Gly
1           5           10          15

Glu Lys Val Thr Ile Thr Cys Ser Val Ser Ser Thr Ile Ser Ser Asn
          20          25          30

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eolf-seql.txt

His Leu His Trp Phe Gln Gln Lys Ser Asp Thr Ser Pro Lys Pro Trp
35 40 45

Ile Tyr Gly Thr Ser Asn Leu Ala Ser Gly Val Pro Val Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu
65 70 75 80

Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Tyr Pro
85 90 95

Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Arg Arg Ala Asp Ala
100 105 110

Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln Leu Thr Ser
115 120 125

Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr Pro Lys Asp
130 135 140

Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln Asn Gly Val
145 150 155 160

Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met
165 170 175

Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg His Asn Ser
180 185 190

Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro Ile Val Lys
195 200 205

Ser Phe Asn Arg Asn Glu Cys
210 215

<210> 126
<211> 648
<212> DNA
<213> Mus musculus

<400> 126
gaaattgtgc tcaccagtc tccagcactc atggctgcat ctccggggga gaaggtcacc 60
atcacctgca gtgtcagttc aactataagt tccaaccact tgcactgggt ccagcagaag 120
tcagacacct cccccaacc ctggatttat ggcacatcca acctggcttc tggagtcctt 180
gttcgcttca gtggcagtggt atctgggacc tcttattctc tcacaatcag cagcatggag 240
gctgaggatg ctgccactta ttactgtcaa cagtggagta gttaccact caggttcggc 300
gctgggacca agctggagct gagacgggct gatgctgcac caactgtatc catcttccca 360
ccatccagtg agcagttaac atctggaggt gcctcagtcg tgtgcttctt gaacaacttc 420

eolf-seql.txt

taccccaaag acatcaatgt caagtggaag attgatggca gtgaacgaca aaatggcgtc 480
 ctgaacagtt ggactgatca ggacagcaaa gacagcacct acagcatgag cagcaccctc 540
 acgttgacca aggacgagta tgaacgacat aacagctata cctgtgaggc cactcacaag 600
 acatcaactt caccattgt caagagcttc aacaggaatg agtgttag 648

<210> 127
 <211> 237
 <212> PRT
 <213> Mus musculus

<400> 127

Met Asp Phe His Val Gln Ile Phe Ser Phe Met Leu Ile Ser Val Thr
 1 5 10 15

Val Ile Leu Ser Ser Gly Glu Ile Val Leu Thr Gln Ser Pro Ala Leu
 20 25 30

Met Ala Ala Ser Pro Gly Glu Lys Val Thr Ile Thr Cys Ser Val Ser
 35 40 45

Ser Thr Ile Ser Ser Asn His Leu His Trp Phe Gln Gln Lys Ser Asp
 50 55 60

Thr Ser Pro Lys Pro Trp Ile Tyr Gly Thr Ser Asn Leu Ala Ser Gly
 65 70 75 80

Val Pro Val Arg Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu
 85 90 95

Thr Ile Ser Ser Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln
 100 105 110

Gln Trp Ser Ser Tyr Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu
 115 120 125

Leu Arg Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser
 130 135 140

Ser Glu Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn
 145 150 155 160

Asn Phe Tyr Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser
 165 170 175

Glu Arg Gln Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys
 180 185 190

Asp Ser Thr Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu
 195 200 205

eolf-seql.txt

Tyr Glu Arg His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser
210 215 220

Thr Ser Pro Ile Val Lys Ser Phe Asn Arg Asn Glu Cys
225 230 235

<210> 128
<211> 714
<212> DNA
<213> Mus musculus

<400> 128
atggattttc atgtgcagat tttcagcttc atgctaataca gtgtcacagt cattttgtcc 60
agtggagaaa ttgtgctcac ccagtctcca gcactcatgg ctgcatctcc gggggagaag 120
gtcaccatca cctgcagtgt cagttcaact ataagttcca accacttgca ctggttccag 180
cagaagtcag acacctcccc caaacctgg atttatggca catccaacct ggcttctgga 240
gtccctgttc gcttcagtgg cagtggatct gggacctctt attctctcac aatcagcagc 300
atggaggctg aggatgctgc cacttattac tgtcaacagt ggagtagtta cccactcacg 360
ttcggcgctg ggaccaagct ggagctgaga cgggctgatg ctgcaccaac tgtatccatc 420
ttcccacat ccagtgagca gttaacatct ggaggtgcct cagtcgtgtg cttcttgaac 480
aacttctacc ccaaagacat caatgtcaag tggaagattg atggcagtga acgacaaaat 540
ggcgtcctga acagttggac tgatcaggac agcaaagaca gcacctacag catgagcagc 600
accctcacgt tgaccaagga cgagtatgaa cgacataaca gctatacctg tgaggccact 660
cacaagacat caacttcacc cattgtcaag agcttcaaca ggaatgagtg ttag 714

<210> 129
<211> 449
<212> PRT
<213> Mus musculus

<400> 129
Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Ala
1 5 10 15

Leu Val Lys Leu Ser Cys Thr Ala Ser Asp Phe Asn Ile Lys Asp Phe
20 25 30

Tyr Leu His Trp Met Arg Gln Arg Pro Glu Gln Gly Leu Asp Trp Ile
35 40 45

Gly Arg Ile Asp Pro Glu Asn Gly Asp Thr Leu Tyr Asp Pro Lys Phe
50 55 60

Gln Asp Lys Ala Thr Leu Thr Thr Asp Thr Ser Ser Asn Thr Ala Tyr
65 70 75 80

Leu Gln Leu Ser Gly Leu Thr Ser Glu Thr Thr Ala Val Tyr Tyr Cys

Ser Arg Glu Ala Asp Tyr Phe His Asp Gly Thr Ser Tyr Trp Tyr Phe
 100 105 110
 Asp Val Trp Gly Ala Gly Thr Thr Ile Thr Val Ser Ser Ala Lys Thr
 115 120 125
 Thr Pro Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr
 130 135 140
 Asn Ser Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu
 145 150 155 160
 Pro Val Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val His
 165 170 175
 Thr Phe Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser
 180 185 190
 Val Thr Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys Asn
 195 200 205
 Val Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val Pro
 210 215 220
 Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu Val Ser
 225 230 235 240
 Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr Ile Thr
 245 250 255
 Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys Asp Asp
 260 265 270
 Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val His Thr
 275 280 285
 Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser
 290 295 300
 Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly Lys Glu
 305 310 315 320
 Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu Lys
 325 330 335
 Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr
 340 345 350
 Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr

355

360

365

Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln
 370 375 380

Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met
 385 390 395 400

Asp Thr Asp Gly Ser Tyr Phe Ile Tyr Ser Lys Leu Asn Val Gln Lys
 405 410 415

Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu
 420 425 430

Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser Pro Gly
 435 440 445

Lys

<210> 130
 <211> 1350
 <212> DNA
 <213> Mus musculus

<400> 130
 gaggttcagc tgcagcagtc tggggctgaa cttgtgaggc caggggcctt agtcaagttg 60
 tcctgcacag cttctgactt caacattaaa gacttctatc tacactggat gaggcagcgg 120
 cctgaacagg gcctggactg gattggaagg attgatcctg agaatgggtga tactttatat 180
 gacccgaagt tccaggacaa ggccactctt acaacagaca catcctccaa cacagcctac 240
 ctgcagctca gcggcctgac atctgagacc actgccgtct attactgttc tagagaggcg 300
 gattatttcc acgatggtag ctcctactgg tacttcgatg tctggggcgc agggaccaca 360
 atcaccgtct ctcagccaa aacgacaccc ccatctgtct atccactggc ccctggatct 420
 gctgccccaa ctaactccat ggtgaccctg ggatgcctgg tcaagggcta tttccctgag 480
 ccagtgcag tgacctggaa ctctggatcc ctgtccagcg gtgtgcacac cttcccagct 540
 gtcctgcagt ctgacctcta cactctgagc agctcagtga ctgtcccctc cagcacctgg 600
 cccagcgaga ccgtcacctg caacgttgcc caccggcca gcagcaccaa ggtggacaag 660
 aaaattgtgc ccagggattg tggttgtaag cttgcatat gtacagtccc agaagtatca 720
 tctgtcttca tcttcccccc aaagcccaag gatgtgtctc ccattactct gactcctaag 780
 gtcacgtgtg ttgtggtaga catcagcaag gatgatcccg aggtccagtt cagctggttt 840
 gtagatgatg tggaggtgca cacagctcag acgcaacccc gggaggagca gttcaacagc 900
 actttccgct cagtcagtga acttcccatc atgcaccagg actgggtcaa tggcaaggag 960
 ttcaaatgca gggtaacag tgcagctttc cctgccccca tcgagaaaac catctccaaa 1020
 accaaaggca gaccgaaggc tccacaggtg tacaccattc cacctcccaa ggagcagatg 1080

eolf-seql.txt

gccaaggata aagtcagtct gacctgcatg ataacagact tcttcctga agacattact 1140
 gtggagtggc agtggaaatgg gcagccagcg gagaactaca agaacactca gcccatcatg 1200
 gacacagatg gctcttactt catctacagc aagctcaatg tgcagaagag caactgggag 1260
 gcaggaaata ctttcacctg ctctgtgtta catgagggcc tgcacaacca ccatactgag 1320
 aagagcctct cccactctcc tggtaaatga 1350

<210> 131
 <211> 468
 <212> PRT
 <213> Mus musculus

<400> 131

Met Lys Cys Ser Trp Val Ile Phe Phe Leu Met Ala Val Val Thr Gly
 1 5 10 15

Val Asn Ser Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg
 20 25 30

Pro Gly Ala Leu Val Lys Leu Ser Cys Thr Ala Ser Asp Phe Asn Ile
 35 40 45

Lys Asp Phe Tyr Leu His Trp Met Arg Gln Arg Pro Glu Gln Gly Leu
 50 55 60

Asp Trp Ile Gly Arg Ile Asp Pro Glu Asn Gly Asp Thr Leu Tyr Asp
 65 70 75 80

Pro Lys Phe Gln Asp Lys Ala Thr Leu Thr Thr Asp Thr Ser Ser Asn
 85 90 95

Thr Ala Tyr Leu Gln Leu Ser Gly Leu Thr Ser Glu Thr Thr Ala Val
 100 105 110

Tyr Tyr Cys Ser Arg Glu Ala Asp Tyr Phe His Asp Gly Thr Ser Tyr
 115 120 125

Trp Tyr Phe Asp Val Trp Gly Ala Gly Thr Thr Ile Thr Val Ser Ser
 130 135 140

Ala Lys Thr Thr Pro Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala
 145 150 155 160

Ala Gln Thr Asn Ser Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr
 165 170 175

Phe Pro Glu Pro Val Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser
 180 185 190

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu

195

200

205

Ser Ser Ser Val Thr Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val
 210 215 220

Thr Cys Asn Val Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys
 225 230 235 240

Ile Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro
 245 250 255

Glu Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu
 260 265 270

Thr Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser
 275 280 285

Lys Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu
 290 295 300

Val His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr
 305 310 315 320

Phe Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn
 325 330 335

Gly Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro
 340 345 350

Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln
 355 360 365

Val Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val
 370 375 380

Ser Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val
 385 390 395 400

Glu Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln
 405 410 415

Pro Ile Met Asp Thr Asp Gly Ser Tyr Phe Ile Tyr Ser Lys Leu Asn
 420 425 430

Val Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val
 435 440 445

Leu His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His
 450 455 460

Ser Pro Gly Lys

465

<210> 132
 <211> 1407
 <212> DNA
 <213> Mus musculus

<400> 132
 atgaaatgca gctgggtcat cttcttcctg atggcagtgg ttacaggggt caattcagag 60
 gttcagctgc agcagtctgg ggctgaactt gtgaggccag gggccttagt caagttgtcc 120
 tgcacagctt ctgacttcaa cattaaagac ttctatctac actggatgag gcagcggcct 180
 gaacagggcc tggactggat tggaaggatt gatcctgaga atggtgatac tttatatgac 240
 ccgaagtcc aggacaaggc cactcttaca acagacacat cctccaacac agcctacctg 300
 cagctcagcg gcctgacatc tgagaccact gccgtctatt actgttctag agaggcggat 360
 tatttccacg atggtacctc ctactggtac ttcgatgtct ggggcgcagg gaccacaatc 420
 accgtctcct cagccaaaac gacaccccca tctgtctatc cactggcccc tggatctgct 480
 gcccaaacta actccatggg gaccctggga tgcttggtca agggctatct ccctgagcca 540
 gtgacagtga cctggaactc tggatccctg tccagcgggtg tgcacacctt cccagctgtc 600
 ctgcagtctg acctctacac tctgagcagc tcagtgactg tcccctccag cacctggccc 660
 agcgagaccg tcacctgcaa cgttgccac ccggccagca gcaccaaggt ggacaagaaa 720
 attgtgcca gggattgtgg ttgtaagcct tgcataatgta cagtcccaga agtatcatct 780
 gtcttcatct tcccccaaa gcccaaggat gtgctcacca ttactctgac tcctaaggctc 840
 acgtgtgttg tggtagacat cagcaaggat gatcccgagg tccagttcag ctggtttgta 900
 gatgatgtgg aggtgcacac agctcagacg caaccccggg aggagcagtt caacagcact 960
 ttccgctcag tcagtgaact tcccatcatg caccaggact ggctcaatgg caaggagttc 1020
 aaatgcaggg tcaacagtgc agctttccct gcccccatcg agaaaaccat ctccaaaacc 1080
 aaaggcagac cgaaggctcc acaggtgtac accattccac ctcccaagga gcagatggcc 1140
 aaggataaag tcagtctgac ctgcatgata acagacttct tccctgaaga cattactgtg 1200
 gagtggcagt ggaatgggca gccagcggag aactacaaga aactcagcc catcatggac 1260
 acagatggct ctacttcat ctacagcaag ctcaatgtgc agaagagcaa ctgggaggca 1320
 ggaaatactt tcacctgctc tgtgttacat gagggcctgc acaaccacca tactgagaag 1380
 agcctctccc actctcctgg taaatga 1407

<210> 133
 <211> 214
 <212> PRT
 <213> Mus musculus

<400> 133

Asp Ile Gln Met Thr Gln Ile Thr Ser Ser Leu Ser Ala Ser Leu Gly
 1 5 10 15

eolf-seql.txt

Asp Arg Val Ser Ile Ser Cys Arg Ala Ser Gln Asp Ile Ser Asn Tyr
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Phe Lys Leu Leu Ile
35 40 45

Phe Tyr Thr Ser Arg Leu Leu Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Tyr Asn Leu Glu Gln
65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Gly Asp Thr Leu Pro Tyr
85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala Asp Ala Ala
100 105 110

Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln Leu Thr Ser Gly
115 120 125

Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr Pro Lys Asp Ile
130 135 140

Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln Asn Gly Val Leu
145 150 155 160

Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met Ser
165 170 175

Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg His Asn Ser Tyr
180 185 190

Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro Ile Val Lys Ser
195 200 205

Phe Asn Arg Asn Glu Cys
210

<210> 134
<211> 645
<212> DNA
<213> Mus musculus

<400> 134
gatatccaga tgacacagat tacatcctcc ctgtctgcct ctctgggaga cagggtctcc 60
atcagttgca gggcaagtca agacattagc aattatttaa actggtatca gcagaaacca 120
gatggaactt ttaaactcct tatcttctac acatcaagat tactctcagg agtcccatca 180
aggttcagtg gcagtgggtc tggaacagat tattctctca ccatttaciaa cctggagcaa 240
gaagattttg ccacttactt ttgccaacag ggagatacgc ttccgtacac tttcggaggg 300

eolf-seql.txt

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gggaccaagc tggaaataaa acgggctgat gctgcaccaa ctgtatccat cttcccacca      360
tccagtgagc agttaacatc tggaggtgcc tcagtcgtgt gcttcttgaa caacttctac      420
cccaaagaca tcaatgtcaa gtggaagatt gatggcagtg aacgacaaaa tggcgtcctg      480
aacagttgga ctgatcagga cagcaaagac agcacctaca gcatgagcag caccctcacg      540
ttgaccaagg acgagtatga acgacataac agctatacct gtgaggccac tcacaagaca      600
tcaacttcac ccattgtcaa gagcttcaac aggaatgagt gttag                        645

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<210> 135
 <211> 234
 <212> PRT
 <213> Mus musculus

<400> 135

Met Met Ser Ser Ala Gln Phe Leu Gly Leu Leu Leu Leu Cys Phe Gln
 1 5 10 15

Gly Thr Arg Cys Asp Ile Gln Met Thr Gln Ile Thr Ser Ser Leu Ser
 20 25 30

Ala Ser Leu Gly Asp Arg Val Ser Ile Ser Cys Arg Ala Ser Gln Asp
 35 40 45

Ile Ser Asn Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Phe
 50 55 60

Lys Leu Leu Ile Phe Tyr Thr Ser Arg Leu Leu Ser Gly Val Pro Ser
 65 70 75 80

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Tyr
 85 90 95

Asn Leu Glu Gln Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Gly Asp
 100 105 110

Thr Leu Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg
 115 120 125

Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln
 130 135 140

Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr
 145 150 155 160

Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln
 165 170 175

Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr
 180 185 190

eolf-seql.txt

Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg
195 200 205

His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro
210 215 220

Ile Val Lys Ser Phe Asn Arg Asn Glu Cys
225 230

<210> 136
<211> 705
<212> DNA
<213> Mus musculus

<400> 136
atgatgtcct ctgctcagtt ccttggctct ctgttgcctt gttttcaagg taccagatgt 60
gatatccaga tgacacagat tacatcctcc ctgtctgcct ctctgggaga cagggtctcc 120
atcagttgca gggcaagtca agacattagc aattatttaa actggtatca gcagaaacca 180
gatggaactt ttaaactcct tatcttctac acatcaagat tactctcagg agtcccatca 240
aggttcagtg gcagtgggtc tggaacagat tattctctca ccatttaca cctggagcaa 300
gaagattttg ccacttactt ttgccaacag ggagatacgc ttccgtacac tttcggaggg 360
gggaccaagc tggaaataaa acgggctgat gctgcaccaa ctgtatccat cttcccacca 420
tccagtggagc agttaacatc tggaggtgcc tcagtcgtgt gcttcttgaa caacttctac 480
cccaaagaca tcaatgtcaa gtggaagatt gatggcagtg aacgacaaaa tggcgtcctg 540
aacagttgga ctgatcagga cagcaaagac agcacctaca gcatgagcag caccctcacg 600
ttgaccaagg acgagtatga acgacataac agctatacct gtgaggccac tcacaagaca 660
tcaacttcac ccattgtcaa gagcttcaac aggaatgagt gttag 705

<210> 137
<211> 447
<212> PRT
<213> Mus musculus

<400> 137

Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Met Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Asn Met His Trp Val Lys Gln Asn Gln Gly Lys Thr Leu Glu Trp Ile
35 40 45

Gly Glu Ile Asn Pro Asn Ser Gly Gly Ala Gly Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Thr Thr Ala Tyr
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eolf-seql.txt

```

65              70              75              80
Met Glu Leu Arg Ser85 Leu Thr Ser Glu Asp90 Ser Ala Val Tyr Tyr95 Cys
Ala Arg Leu Gly100 Tyr Asp Asp Ile Tyr105 Asp Asp Trp Tyr Phe110 Asp Val
Trp Gly Ala115 Gly Thr Thr Val Thr120 Val Ser Ser Ala Lys125 Thr Thr Pro
Pro Ser130 Val Tyr Pro Leu Ala135 Pro Gly Ser Ala Ala140 Gln Thr Asn Ser
Met Val Thr Leu Gly Cys150 Leu Val Lys Gly Tyr155 Phe Pro Glu Pro Val160
Thr Val Thr Trp Asn165 Ser Gly Ser Leu Ser170 Ser Gly Val His Thr175 Phe
Pro Ala Val Leu180 Gln Ser Asp Leu Tyr185 Thr Leu Ser Ser Ser190 Val Thr
Val Pro Ser195 Ser Thr Trp Pro Ser200 Glu Thr Val Thr Cys205 Asn Val Ala
His Pro210 Ala Ser Ser Thr Lys215 Val Asp Lys Lys Ile220 Val Pro Arg Asp
Cys Gly Cys Lys Pro Cys230 Ile Cys Thr Val Pro235 Glu Val Ser Ser Val240
Phe Ile Phe Pro Pro245 Lys Pro Lys Asp Val250 Leu Thr Ile Thr Leu Thr255
Pro Lys Val Thr260 Cys Val Val Val Asp265 Ile Ser Lys Asp Asp270 Pro Glu
Val Gln Phe275 Ser Trp Phe Val Asp280 Asp Val Glu Val His285 Thr Ala Gln
Thr Gln Pro Arg Glu Glu Gln295 Phe Asn Ser Thr Phe300 Arg Ser Val Ser
Glu Leu Pro Ile Met His310 Gln Asp Trp Leu Asn315 Gly Lys Glu Phe Lys320
Cys Arg Val Asn Ser325 Ala Ala Phe Pro Ala330 Pro Ile Glu Lys Thr335 Ile
Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr Ile Pro

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340

345

350

Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr Cys Met
 355 360 365

Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln Trp Asn
 370 375 380

Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met Asp Thr
 385 390 395 400

Asp Gly Ser Tyr Phe Ile Tyr Ser Lys Leu Asn Val Gln Lys Ser Asn
 405 410 415

Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu Gly Leu
 420 425 430

His Asn His His Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys
 435 440 445

<210> 138
 <211> 1344
 <212> DNA
 <213> Mus musculus

<400> 138
 gaggtccaac tgcaacagtc tggacctgaa ctaatgaagc ctggggccttc agtgaagatg 60
 tcctgcaagg cttctggata tacattcact gactacaaca tgcactgggt gaagcagaac 120
 caaggaaaga ccctagagtg gataggagaa attaatccta acagtgggtg tgctggctac 180
 aaccagaagt tcaagggcaa ggccacattg actgtagaca agtcctccac cacagcctac 240
 atggagctcc gcagcctgac atctgaggac tctgcagtct attactgtgc aagattgggc 300
 tacgatgata tctacgacga ctggtacttc gatgtctggg gcgcagggac cacggtcacc 360
 gtctcctcag ccaaaacgac acccccatct gtctatccac tggcccctgg atctgctgcc 420
 caaactaact ccatggtgac cctgggatgc ctggtcaagg gctatttccc tgagccagtg 480
 acagtgacct ggaactctgg atccctgtcc agcgggtgtgc acaccttccc agctgtcctg 540
 cagtctgacc tctacactct gagcagctca gtgactgtcc cctccagcac ctggcccagc 600
 gagaccgtca cctgcaacgt tgcccacccg gccagcagca ccaaggtgga caagaaaatt 660
 gtgcccaggg attgtgggtg taagccttgc atatgtacag tcccagaagt atcatctgtc 720
 ttcatcttcc ccccaaagcc caaggatgtg ctcaccatta ctctgactcc taaggtcacg 780
 tgtgttgtgg tagacatcag caaggatgat cccgaggtcc agttcagctg gtttgtagat 840
 gatgtggagg tgcacacagc tcagacgcaa cccgaggagg agcagttcaa cagcactttc 900
 cgctcagtca gtgaacttcc catcatgcac caggactggc tcaatggcaa ggagttcaaa 960
 tgcaggggtca acagtgcagc tttccctgcc cccatcgaga aaaccatctc caaaaccaa 1020
 ggcagaccga aggctccaca ggtgtacacc attccacctc ccaaggagca gatggccaag 1080

eolf-seql.txt

gataaagtca gtctgacctg catgataaca gactttcttcc ctgaagacat tactgtggag 1140
 tggcagtggga atgggcagcc agcggagaac tacaagaaca ctcagcccat catggacaca 1200
 gatggctctt acttcatcta cagcaagctc aatgtgcaga agagcaactg ggaggcagga 1260
 aatactttca cctgctctgt gttacatgag ggcctgcaca accaccatac tgagaagagc 1320
 ctctcccact ctcttggtaa atga 1344

<210> 139
 <211> 466
 <212> PRT
 <213> Mus musculus

<400> 139

Met Gly Trp Ser Trp Thr Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly
 1 5 10 15

Val Leu Ser Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Met Lys
 20 25 30

Pro Gly Ala Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe
 35 40 45

Thr Asp Tyr Asn Met His Trp Val Lys Gln Asn Gln Gly Lys Thr Leu
 50 55 60

Glu Trp Ile Gly Glu Ile Asn Pro Asn Ser Gly Gly Ala Gly Tyr Asn
 65 70 75 80

Gln Lys Phe Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Thr
 85 90 95

Thr Ala Tyr Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val
 100 105 110

Tyr Tyr Cys Ala Arg Leu Gly Tyr Asp Asp Ile Tyr Asp Asp Trp Tyr
 115 120 125

Phe Asp Val Trp Gly Ala Gly Thr Thr Val Thr Val Ser Ser Ala Lys
 130 135 140

Thr Thr Pro Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln
 145 150 155 160

Thr Asn Ser Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro
 165 170 175

Glu Pro Val Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val
 180 185 190

His Thr Phe Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser
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195

200

205

Ser Val Thr Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys
 210 215 220

Asn Val Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val
 225 230 235 240

Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu Val
 245 250 255

Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr Ile
 260 265 270

Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys Asp
 275 280 285

Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val His
 290 295 300

Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg
 305 310 315 320

Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly Lys
 325 330 335

Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu
 340 345 350

Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr
 355 360 365

Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu
 370 375 380

Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp
 385 390 395 400

Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile
 405 410 415

Met Asp Thr Asp Gly Ser Tyr Phe Ile Tyr Ser Lys Leu Asn Val Gln
 420 425 430

Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu His
 435 440 445

Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser Pro
 450 455 460

Gly Lys

465

<210> 140
 <211> 1401
 <212> DNA
 <213> Mus musculus

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<400> 140
atgggatgga gctggacctt tctcttcctc ctgtcaggaa ctgcaggtgt cctctctgag      60
gtccaactgc aacagtctgg acctgaacta atgaagcctg gggcttcagt gaagatgtcc      120
tgcaaggctt ctggatatac attcactgac tacaacatgc actgggtgaa gcagaaccaa      180
ggaaagaccc tagagtggat aggagaaatt aatcctaaca gtggtggtgc tggctacaac      240
cagaagttca agggcaaggc cacattgact gtagacaagt cctccaccac agcctacatg      300
gagctccgca gcctgacatc tgaggactct gcagtctatt actgtgcaag attgggctac      360
gatgatatct acgacgactg gtacttcgat gtctggggcg cagggaccac ggtcacctgc      420
tcctcagcca aaacgacacc cccatctgtc tatccactgg cccctggatc tgctgcccaa      480
actaactcca tggtgaccct gggatgcctg gtcaagggtc atttccctga gccagtgaca      540
gtgacctgga actctggatc cctgtccagc ggtgtgcaca ccttcccagc tgtcctgcag      600
tctgacctct acactctgag cagctcagtg actgtcccct ccagcacctg gccagcgag      660
accgtcacct gcaacgttgc ccacccggcc agcagcacca aggtggacaa gaaaattgtg      720
cccagggatt gtggttgtaa gccttgcata tgtacagtcc cagaagtatc atctgtcttc      780
atcttcccc caaagcccaa ggatgtgctc accattactc tgactcctaa ggtcacgtgt      840
gttgtggtag acatcagcaa ggatgatccc gaggtccagt tcagctgggt tgtagatgat      900
gtggaggtgc acacagctca gacgcaaccc cgggaggagc agttcaacag cactttccgc      960
tcagtcagtg aacttcccat catgcaccag gactggctca atggcaagga gttcaaatgc     1020
agggtaaca gtgcagcttt ccctgcccc atcgagaaaa ccatctcaa aaccaaaggc     1080
agaccgaagg ctccacaggt gtacaccatt ccacctcca aggagcagat ggccaaggat     1140
aaagtcagtc tgacctgcat gataacagac ttcttccctg aagacattac tgtggagtgg     1200
cagtggaatg ggagccagc ggagaactac aagaacactc agcccatcat ggacacagat     1260
ggctcttact tcatctacag caagctcaat gtgcagaaga gcaactggga ggcaggaaat     1320
actttcacct gctctgtgtt acatgagggc ctgcacaacc accatactga gaagagcctc     1380
tcccactctc ctggtaaata a                                     1401

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<210> 141
 <211> 214
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Polypeptide

<220>

<221> MISC_FEATURE

<223> Humanized Antibody Sequence

<400> 141

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Ile Ser Asn Tyr
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Tyr Thr Ser Arg Leu Leu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Asp Thr Leu Pro Tyr
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
 100 105 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
 115 120 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
 130 135 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
 145 150 155 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
 165 170 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
 180 185 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
 195 200 205

Phe Asn Arg Gly Glu Cys
 210

<210> 142

<211> 642

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Polynucleotide

eolf-seql.txt

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<220>
<221> misc_feature
<223> Humanized Antibody Sequence

<400> 142
gacatccaga tgaccagtc tccatcctcc ctctccgcat ccgtaggcga ccgcgtaacc      60
ataacatgta gagcatctca agatatttcc aactatttga attggtacca aaaaaaacc      120
ggcaaagcac ctaaactcct catttactat acatcaagac tcctctccgg cgttccatca      180
cgattctcag gtcccggctc cggcacagat ttcacactca ctatttcctc cctccaacca      240
gaagattttg caacctatta ctgtcaacaa ggcgatacac tccatacac attcggcggc      300
ggcacaaaag ttgaaattaa acgtacggtg gctgcaccat ctgtcttcat cttcccgcca      360
tctgatgagc agttgaaatc tggaactgcc tctgttgtgt gcctgctgaa taacttctat      420
cccagagagg ccaaagtaca gtggaagggtg gataacgccc tccaatcggg taactccag      480
gagagtgtca cagagcagga cagcaaggac agcacctaca gcctcagcag caccctgacg      540
ctgagcaaag cagactacga gaaacacaaa gtctacgcct gcgaagtcac ccatcagggc      600
ctgagctcgc ccgtcacaaa gagcttcaac aggggagagt gt                        642

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```

<210> 143
<211> 236
<212> PRT
<213> Artificial Sequence

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```

<220>
<223> Synthetic Polypeptide

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```

<220>
<221> MISC_FEATURE
<223> Humanized Antibody Sequence

```

```

<400> 143
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1          5          10          15

Leu Arg Gly Ala Arg Cys Asp Ile Gln Met Thr Gln Ser Pro Ser Ser
20          25          30

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser
35          40          45

Gln Asp Ile Ser Asn Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys
50          55          60

Ala Pro Lys Leu Leu Ile Tyr Tyr Thr Ser Arg Leu Leu Ser Gly Val
65          70          75          80

Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
85          90          95

```

eolf-seql.txt

Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
100 105 110

Gly Asp Thr Leu Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile
115 120 125

Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp
130 135 140

Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn
145 150 155 160

Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu
165 170 175

Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp
180 185 190

Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr
195 200 205

Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser
210 215 220

Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
225 230 235

<210> 144
<211> 708
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Polynucleotide

<220>
<221> misc_feature
<223> Humanized Antibody Sequence

<400> 144
atggacatga gggccccgc tcagctcctg gggctcctgc tactctggct ccgaggtgcc 60
agatgtgaca tccagatgac ccagtctcca tcctccctct ccgcatccgt aggcgaccgc 120
gtaaccataa catgtagagc atctcaagat atttccaact atttgaattg gtaccaacaa 180
aaacccggca aagcacctaa actcctcatt tactatacat caagactcct ctccggcggtt 240
ccatcacgat tctcaggctc cggctccggc acagatttca cactcactat ttctccctc 300
caaccagaag attttgcaac ctattactgt caacaaggcg atacactccc atacacattc 360
ggcggcggca caaaagttga aattaaacgt acgggtggctg caccatctgt cttcatcttc 420
ccgccatctg atgagcagtt gaaatctgga actgcctctg ttgtgtgcct gctgaataac 480
ttctatccca gagaggccaa agtacagtgg aagggtggata acgccctcca atcgggtaac 540

eolf-seql.txt

tcccaggaga gtgtcacaga gcaggacagc aaggacagca cctacagcct cagcagcacc 600
 ctgacgctga gcaaagcaga ctacgagaaa cacaaagtct acgcctgcga agtcacccat 660
 cagggcctga gctcgcccggt cacaaagagc ttcaacaggg gagagtgt 708

<210> 145
 <211> 449
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Polypeptide

<220>
 <221> MISC_FEATURE
 <223> Humanized Antibody Sequence

<400> 145

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Asn Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Glu Ile Asn Pro Asn Ser Gly Gly Ala Gly Tyr Asn Gln Lys Phe
 50 55 60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Leu Gly Tyr Asp Asp Ile Tyr Asp Asp Trp Tyr Phe Asp Val
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 115 120 125

Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser
 130 135 140

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
 145 150 155 160

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
 165 170 175

Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val

180

185

190

Thr Val Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val
 195 200 205

Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys
 210 215 220

Cys Cys Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro
 225 230 235 240

Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser
 245 250 255

Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp
 260 265 270

Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn
 275 280 285

Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val
 290 295 300

Val Ser Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu
 305 310 315 320

Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys
 325 330 335

Thr Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr
 340 345 350

Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr
 355 360 365

Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu
 370 375 380

Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu
 385 390 395 400

Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys
 405 410 415

Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu
 420 425 430

Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
 435 440 445

Lys

eolf-seql.txt

<210> 146
<211> 1347
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Polynucleotide

<220>
<221> misc_feature
<223> Humanized Antibody Sequence

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<400> 146
gaggtgcagc tgggtgcagag cggcgccgag gtaaaaaaac caggagcaag cggttaaagtt      60
tcttgtaaag caagcggata tacatttaca gattacaaca tgcattgggt aagacaagcg      120
ccaggacaag gattggaatg gatgggcgaa attaacccta atagtggagg agcagggtac      180
aatcaaaaat tcaaagggag agttacaatg acaacagaca caagcacttc aacagcatat      240
atggaactgc gatcacttag aagcgacgat acagctgtat actattgcg cgcacttggg      300
tatgatgata tatatgatga ctggtatttc gatgtttggg gccaggggaa aacagttacc      360
gtctctagtg cctccaccaa gggcccatcg gtcttcccc tggcgccctg ctccaggagc      420
acctccgaga gcacagcggc cctgggctgc ctggtcaagg actacttccc cgaaccggtg      480
acggtgtcgt ggaactcagg cgctctgacc agcggcgtgc acaccttccc agctgtccta      540
cagtcctcag gactctactc cctcagcagc gtggtgaccg tgccctccag caacttcggc      600
accagacct acacctgcaa cgtagatcac aagcccagca acaccaaggt ggacaagaca      660
gttgagcgca aatgttgtgt cgagtgccca ccgtgccag caccacctgt ggcaggaccg      720
tcagtcttcc tcttcccccc aaaaccaag gacacctca tgatctcccg gacctctgag      780
gtcacgtgcg tgggtggtga cgtgagccac gaagaccccg aggtccagtt caactggtac      840
gtggacggcg tggaggtgca taatgccaag acaaagccac gggaggagca gttcaacagc      900
acgttccgtg tggtcagcgt cctcaccgtt gtgcaccagg actggctgaa cggcaaggag      960
tacaagtgca aggtctccaa caaaggcctc ccagccccca tcgagaaaac catctccaaa     1020
accaaagggc agccccgaga accacaggtg tacaccctgc ccccatcccg ggaggagatg     1080
accaagaacc aggtcagcct gacctgcctg gtcaaaggct tctaccccag cgacatcgcc     1140
gtggagtggg agagcaatgg gcagccggag aacaactaca agaccacacc tcccatgctg     1200
gactccgacg gtccttctt cctctacagc aagctcaccg tggacaagag caggtggcag     1260
caggggaacg tcttctcatg ctccgtgatg catgaggctc tgcacaacca ctacacgcag     1320
aagagcctct ccctgtctcc gggtaaa                                     1347
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<210> 147
<211> 468
<212> PRT
<213> Artificial Sequence

eolf-seql.txt

<220>

<223> Synthetic Polypeptide

<220>

<221> MISC_FEATURE

<223> Humanized Antibody Sequence

<400> 147

Met Asp Trp Thr Trp Arg Ile Leu Phe Leu Val Ala Ala Ala Thr Gly
1 5 10 15

Ala His Ser Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
20 25 30

Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe
35 40 45

Thr Asp Tyr Asn Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu
50 55 60

Glu Trp Met Gly Glu Ile Asn Pro Asn Ser Gly Gly Ala Gly Tyr Asn
65 70 75 80

Gln Lys Phe Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser
85 90 95

Thr Ala Tyr Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val
100 105 110

Tyr Tyr Cys Ala Arg Leu Gly Tyr Asp Asp Ile Tyr Asp Asp Trp Tyr
115 120 125

Phe Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser
130 135 140

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr
145 150 155 160

Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
165 170 175

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
180 185 190

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
195 200 205

Ser Val Val Thr Val Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr
210 215 220

Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val

eof-seq1.txt

```

<400> 148
atggactgga cctggaggat cctcttcttg gtggcagcag ccacaggagc cacttccgag      60
gtgcagctgg tgcagagcgg cgccgaggta aaaaaaccag gagcaagcgt taaagtttct      120
tgtaaagcaa gcggatatac atttacagat tacaacatgc attgggtaag acaagcgcca      180
ggacaaggat tggaatggat gggcgaaatt aaccctaata gtggaggagc aggctacaat      240
caaaaattca aaggggagagt tacaatgaca acagacacaa gcacttcaac agcatatatg      300
gaactgcgat cacttagaag cgacgataca gctgtatact attgcgcacg acttgggtat      360
gatgatatat atgatgactg gtatttcgat gtttggggcc aggaacaac agttaccgtc      420
tctagtgcct ccaccaaggg cccatcggtc ttcccccttg cgccctgctc caggagcacc      480
tccgagagca cagcggccct gggctgcctg gtcaaggact acttccccga accggtgacg      540
gtgtcgtgga actcaggcgc tctgaccagc ggcgtgcaca cttcccagc tgtcctacag      600
tcctcaggac tctactccct cagcagcgtg gtgaccgtgc cttccagcaa cttcggcacc      660
cagacctaca cctgcaacgt agatcacaag cccagcaaca ccaagggtgga caagacagtt      720
gagcgcaaat gttgtgtcga gtgccaccg tgcccagcac cacctgtggc aggaccgtca      780
gtcttcctct tccccccaaa acccaaggac accctcatga tctcccggac ccctgaggtc      840
acgtgctggtg tgggtggacgt gagccacgaa gaccccgagg tccagttcaa ctggtacgtg      900
gacggcgtgg aggtgcataa tgccaagaca aagccacggg aggagcagtt caacagcacg      960
ttccgtgtgg tcagcgtcct caccgttgtg caccaggact ggctgaacgg caaggagtac     1020
aagtgaagg tctccaacaa aggcctccca gccccatcg agaaaaccat ctccaaaacc     1080
aaagggcagc cccgagaacc acaggtgtac accctgcccc catcccggga ggagatgacc     1140
aagaaccagg tcagcctgac ctgcctggtc aaaggcttct accccagcga catcgccgtg     1200
gagtgggaga gcaatgggca gccggagaac aactacaaga ccacacctcc catgctggac     1260
tccgacggct ctttcttct ctacagcaag ctcaccgtgg acaagagcag gtggcagcag     1320
gggaacgtct tctcatgctc cgtgatgcat gaggctctgc acaaccacta cagcagaag     1380
agcctctccc tgtctccggg taaa                                           1404

```

```

<210> 149
<211> 214
<212> PRT
<213> Mus musculus

```

```

<400> 149
Asp Ile Gln Met Thr Gln Thr Thr Ser Ser Leu Ser Ala Ser Leu Gly
1           5           10          15

Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Gln Asp Ile Ser Asn Tyr
          20          25          30

Leu Asn Trp Phe Gln Gln Lys Pro Asp Gly Thr Leu Lys Leu Leu Ile
          35          40          45

```

eolf-seql.txt

Phe Tyr Thr Ser Arg Leu His Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Asn Leu Glu Gln
65 70 75 80

Glu Asp Ile Ala Thr Tyr Phe Cys Gln Gln Gly Asp Thr Leu Pro Tyr
85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Arg Arg Ala Asp Ala Ala
100 105 110

Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln Leu Thr Ser Gly
115 120 125

Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr Pro Lys Asp Ile
130 135 140

Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln Asn Gly Val Leu
145 150 155 160

Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met Ser
165 170 175

Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg His Asn Ser Tyr
180 185 190

Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro Ile Val Lys Ser
195 200 205

Phe Asn Arg Asn Glu Cys
210

<210> 150
<211> 645
<212> DNA
<213> Mus musculus

<400> 150
gatatccaga tgacacagac tacatcctcc ctgtctgcct ctctgggaga cagagtcacc 60
atcagttgca gggcaagtca ggacattagc aattatttaa actgggtttca gcagaaacca 120
gatggaactc ttaaactcct gatcttctac acatcaagat tacactcagg agttccatca 180
aggttcagtg gcagtgggtc tggaacagat tattctctca ccattagcaa cctggagcaa 240
gaagatattg ccacttactt ttgccaacag ggtgatacgc ttccgtacac gttcgggggg 300
gggaccaagc tggaaataag acgggctgat gctgcaccaa ctgtatccat cttccacca 360
tccagtgagc agttaacatc tggaggtgcc tcagtcgtgt gcttcttgaa caacttctac 420
cccaaagaca tcaatgtcaa gtggaagatt gatggcagtg aacgacaaaa tggcgtcctg 480
aacagttgga ctgatcagga cagcaaagac agcacctaca gcatgagcag caccctcacg 540

eolf-seql.txt

ttgaccaagg acgagtatga acgacataac agctatacct gtgaggccac tcacaagaca 600
tcaacttcac ccattgtcaa gagcttcaac aggaatgagt gtttag 645

<210> 151
<211> 234
<212> PRT
<213> Mus musculus

<400> 151

Met Met Ser Ser Ala Gln Phe Leu Gly Leu Leu Leu Leu Cys Phe Gln
1 5 10 15

Gly Thr Arg Cys Asp Ile Gln Met Thr Gln Thr Thr Ser Ser Leu Ser
20 25 30

Ala Ser Leu Gly Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Gln Asp
35 40 45

Ile Ser Asn Tyr Leu Asn Trp Phe Gln Gln Lys Pro Asp Gly Thr Leu
50 55 60

Lys Leu Leu Ile Phe Tyr Thr Ser Arg Leu His Ser Gly Val Pro Ser
65 70 75 80

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser
85 90 95

Asn Leu Glu Gln Glu Asp Ile Ala Thr Tyr Phe Cys Gln Gln Gly Asp
100 105 110

Thr Leu Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Arg Arg
115 120 125

Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln
130 135 140

Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr
145 150 155 160

Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln
165 170 175

Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr
180 185 190

Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg
195 200 205

His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro
210 215 220

eolf-seql.txt

Ile Val Lys Ser Phe Asn Arg Asn Glu Cys
225 230

<210> 152
<211> 705
<212> DNA
<213> Mus musculus

<400> 152
atgatgtcct ctgctcagtt ccttgggtctc ctgttgctct gttttcaagg taccagatgt 60
gatatccaga tgacacagac tacatcctcc ctgtctgcct ctctgggaga cagagtcacc 120
atcagttgca gggcaagtca ggacattagc aattatttaa actgggtttca gcagaaacca 180
gatggaactc ttaaactcct gatcttctac acatcaagat tacactcagg agttccatca 240
aggttcagtg gcagtgggtc tggaacagat tattctctca ccattagcaa cctggagcaa 300
gaagatattg ccacttactt ttgccaacag ggtgatacgc ttccgtacac gttcgggggg 360
gggaccaagc tggaaataag acgggctgat gctgcaccaa ctgtatccat cttcccacca 420
tccagtgagc agttaacatc tggaggtgcc tcagtcgtgt gcttcttgaa caacttctac 480
cccaaagaca tcaatgtcaa gtggaagatt gatggcagtg aacgacaaaa tggcgtcctg 540
aacagttgga ctgatcagga cagcaaagac agcacctaca gcatgagcag caccctcacg 600
ttgaccaagg acgagtatga acgacataac agctatacct gtgaggccac tcacaagaca 660
tcaacttcac ccattgtcaa gagcttcaac aggaatgagt gtttag 705

<210> 153
<211> 447
<212> PRT
<213> Mus musculus

<400> 153
Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Met Lys Pro Gly Ala
1 5 10 15
Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30
Asn Met His Trp Val Lys Gln Asn Gln Gly Lys Ser Leu Glu Trp Ile
35 40 45
Gly Glu Ile Asn Pro Asn Ser Gly Gly Ser Gly Tyr Asn Gln Lys Phe
50 55 60
Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80
Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
85 90 95
Ala Arg Leu Val Tyr Asp Gly Ser Tyr Glu Asp Trp Tyr Phe Asp Val

eofl-seql.txt

100

105

110

Trp Gly Ala Gly Thr Thr Val Thr Val Ser Ser Ala Lys Thr Thr Pro
115 120 125

Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr Asn Ser
130 135 140

Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val
145 150 155 160

Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr Phe
165 170 175

Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val Thr
180 185 190

Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys Asn Val Ala
195 200 205

His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val Pro Arg Asp
210 215 220

Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu Val Ser Ser Val
225 230 235 240

Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr Ile Thr Leu Thr
245 250 255

Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys Asp Asp Pro Glu
260 265 270

Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val His Thr Ala Gln
275 280 285

Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser Val Ser
290 295 300

Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly Lys Glu Phe Lys
305 310 315 320

Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu Lys Thr Ile
325 330 335

Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr Ile Pro
340 345 350

Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr Cys Met
355 360 365

Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln Trp Asn

370

375

Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met Asp Thr
385 390 395 400

Asp Gly Ser Tyr Phe Ile Tyr Ser Lys Leu Asn Val Gln Lys Ser Asn
405 410 415

Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu Gly Leu
420 425 430

His Asn His His Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys
435 440 445

<210> 154
<211> 1344
<212> DNA
<213> Mus musculus

<400> 154
gaggtccagc tgcaacagtc tggacctgaa ctaatgaagc ctggggcttc agtgaagatg 60
tcctgcaagg cttctggata cacattcact gactacaaca tgcactgggt gaaacagaac 120
caaggaaaga gcctagagtg gataggagaa attaatccta acagtgggtg tagtggctac 180
aaccaaaagt tcaaaggcaa ggccacattg actgtagaca agtcttccag cacagcctac 240
atggagctcc gcagcctgac atctgaggac tctgcagtct attactgtgc aagattggtc 300
tacgatggca gctacgagga ctggtacttc gatgtctggg gcgcagggac cacggtcacc 360
gtctcctcag ccaaaacgac acccccatct gtctatccac tggcccctgg atctgctgcc 420
caaactaact ccatgggtgac cctgggatgc ctggtcaagg gctatttccc tgagccagtg 480
acagtgacct ggaactctgg atccctgtcc agcgggtgtgc acaccttccc agctgtcctg 540
cagtctgacc tctacactct gagcagctca gtgactgtcc cctccagcac ctggcccagc 600
gagaccgtca cctgcaacgt tgcccacccg gccagcagca ccaaggtgga caagaaaatt 660
gtgcccaggg attgtggttg taagccttgc atatgtacag tcccagaagt atcatctgtc 720
ttcatcttcc ccccaaagcc caaggatgtg ctcaccatta ctctgactcc taaggtcacg 780
tgtgttgttg tagacatcag caaggatgat cccgaggtcc agttcagctg gttttagat 840
gatgtggagg tgcacacagc tcagacgcaa cccgaggagg agcagttcaa cagcactttc 900
cgctcagtca gtgaacttcc catcatgcac caggactggc tcaatggcaa ggagttcaaa 960
tgcaggggtca acagtgcagc tttccctgcc cccatcgaga aaaccatctc caaaacaaaa 1020
ggcagaccga aggctccaca ggtgtacacc attccacctc ccaaggagca gatggccaag 1080
gataaagtca gtctgacctg catgataaca gacttcttcc ctgaagacat tactgtggag 1140
tggcagtgga atgggcagcc agcggagaac tacaagaaca ctcagcccat catggacaca 1200
gatggctctt acttcatcta cagcaagctc aatgtgcaga agagcaactg ggaggcagga 1260
aatactttca cctgctctgt gttacatgag ggctgtcaca accaccatac tgagaagagc 1320

ctctcccact ctcctggtaa atga

1344

<210> 155
 <211> 466
 <212> PRT
 <213> Mus musculus

<400> 155

Met Gly Trp Ser Trp Thr Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly
 1 5 10 15

Val Leu Ser Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Met Lys
 20 25 30

Pro Gly Ala Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe
 35 40 45

Thr Asp Tyr Asn Met His Trp Val Lys Gln Asn Gln Gly Lys Ser Leu
 50 55 60

Glu Trp Ile Gly Glu Ile Asn Pro Asn Ser Gly Gly Ser Gly Tyr Asn
 65 70 75 80

Gln Lys Phe Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser
 85 90 95

Thr Ala Tyr Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val
 100 105 110

Tyr Tyr Cys Ala Arg Leu Val Tyr Asp Gly Ser Tyr Glu Asp Trp Tyr
 115 120 125

Phe Asp Val Trp Gly Ala Gly Thr Thr Val Thr Val Ser Ser Ala Lys
 130 135 140

Thr Thr Pro Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln
 145 150 155 160

Thr Asn Ser Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro
 165 170 175

Glu Pro Val Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val
 180 185 190

His Thr Phe Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser
 195 200 205

Ser Val Thr Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys
 210 215 220

Asn Val Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val
 Page 91

eolf-seql.txt

```

<400> 156
atgggatgga gctggacctt tctcttcctc ctgtcaggaa ctgcaggtgt cctctctgag      60
gtccagctgc aacagtctgg acctgaacta atgaagcctg gggcttcagt gaagatgtcc      120
tgcaaggctt ctggatacac attcactgac tacaacatgc actgggtgaa acagaaccaa      180
ggaaagagcc tagagtggat aggagaaatt aatcctaaca gtggtggtag tggctacaac      240
caaaagttca aaggcaaggc cacattgact gtagacaagt cttccagcac agcctacatg      300
gagctccgca gcctgacatc tgaggactct gcagtctatt actgtgcaag attggtctac      360
gatggcagct acgaggactg gtacttcgat gtctggggcg cagggaccac ggtcaccgtc      420
tcctcagcca aaacgacacc cccatctgtc tatccactgg cccctggatc tgctgcccaa      480
actaactcca tggtgaccct gggatgcctg gtcaagggtt atttcctga gccagtgaca      540
gtgacctgga actctggatc cctgtccagc ggtgtgcaca ccttcccagc tgtcctgcag      600
tctgacctct acactctgag cagctcagtg actgtcccct ccagcacctg gccagcgag      660
accgtcacct gcaacgttgc ccacccggcc agcagcacca aggtggacaa gaaaattgtg      720
cccagggatt gtggttgtaa gccttgcata tgtacagtcc cagaagtatc atctgtcttc      780
atcttcccc caaagcccaa ggatgtgtc accattactc tgactcctaa ggtcacgtgt      840
gttgtggtag acatcagcaa ggatgatccc gaggtccagt tcagctgggt tgtagatgat      900
gtggagggtg acacagctca gacgcaacc cgggaggagc agttcaacag cactttccgc      960
tcagtcaagt aacttcccat catgcaccag gactggctca atggcaagga gttcaaatgc     1020
aggttcaaca gtgcagcttt ccttgcccc atcgagaaaa ccatctccaa aaccaaaggc     1080
agaccgaagg ctccacaggt gtacaccatt ccacctcca aggagcagat ggccaaggat     1140
aaagtcagtc tgacctgcat gataacagac ttcttccttg aagacattac tgtggagtgg     1200
cagtggaatg ggcagccagc ggagaactac aagaacactc agcccatcat ggacacagat     1260
ggctcttact tcattctacag caagctcaat gtgcagaaga gcaactggga ggcaggaaat     1320
actttcacct gctctgtgtt acatgagggc ctgcacaacc accatactga gaagagcctc     1380
tcccactctc ctggtaaatg a                                     1401

```

```

<210> 157
<211> 214
<212> PRT
<213> Mus musculus

```

```

<400> 157
Asp Ile Gln Met Thr Gln Thr Thr Ser Ser Leu Ser Ala Ser Leu Gly
1           5           10           15

Asp Arg Val Thr Ile Cys Cys Arg Ala Ser Gln Val Ile Thr Asn Tyr
          20          25          30

Leu Tyr Trp Tyr Gln Gln Lys Pro Asp Gly Thr Phe Lys Leu Leu Ile
          35          40          45

```

eolf-seql.txt

Tyr Tyr Thr Ser Arg Leu His Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Asn Leu Glu Gln
65 70 75 80

Glu Asp Ile Ala Thr Tyr Phe Cys Gln Gln Gly Asp Thr Leu Pro Tyr
85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala Asp Ala Ala
100 105 110

Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln Leu Thr Ser Gly
115 120 125

Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr Pro Lys Asp Ile
130 135 140

Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln Asn Gly Val Leu
145 150 155 160

Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met Ser
165 170 175

Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg His Asn Ser Tyr
180 185 190

Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro Ile Val Lys Ser
195 200 205

Phe Asn Arg Asn Glu Cys
210

<210> 158
<211> 642
<212> DNA
<213> Mus musculus

<400> 158
gatatccaga tgacacagac tacatcctcc ctgtctgcct ctctgggaga cagagtcacc 60
atctgttgca gggcaagtca ggtcattacc aattatttat actggtatca gcagaaacca 120
gatggaactt ttaaactcct gatctactac acatcaagat tacactcagg agtcccatca 180
aggttcagtg gcagtgggtc tggaacagat tattctctca ccattagcaa cctggaacag 240
gaagatattg ccacttactt ttgccaacag ggtgatacgc ttccgtacac gttcggaggg 300
gggaccaagc tggaaataaa acgggctgat gctgcaccaa ctgtatccat cttccacca 360
tccagtgagc agttaacatc tggaggtgcc tcagtcgtgt gcttcttgaa caacttctac 420
cccaaagaca tcaatgtcaa gtggaagatt gatggcagtg aacgacaaaa tggcgtcctg 480
aacagttgga ctgatcagga cagcaaagac agcacctaca gcatgagcag caccctcacg 540

eolf-seql.txt

ttgaccaagg acgagtatga acgacataac agctatacct gtgaggccac tcacaagaca 600
tcaacttcac ccattgtcaa gagcttcaac aggaatgagt gt 642

<210> 159
<211> 234
<212> PRT
<213> Mus musculus

<400> 159

Met Met Ser Ser Ala Gln Phe Leu Gly Leu Leu Leu Leu Cys Phe Gln
1 5 10 15

Gly Thr Arg Cys Asp Ile Gln Met Thr Gln Thr Thr Ser Ser Leu Ser
20 25 30

Ala Ser Leu Gly Asp Arg Val Thr Ile Cys Cys Arg Ala Ser Gln Val
35 40 45

Ile Thr Asn Tyr Leu Tyr Trp Tyr Gln Gln Lys Pro Asp Gly Thr Phe
50 55 60

Lys Leu Leu Ile Tyr Tyr Thr Ser Arg Leu His Ser Gly Val Pro Ser
65 70 75 80

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser
85 90 95

Asn Leu Glu Gln Glu Asp Ile Ala Thr Tyr Phe Cys Gln Gln Gly Asp
100 105 110

Thr Leu Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg
115 120 125

Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln
130 135 140

Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr
145 150 155 160

Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln
165 170 175

Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr
180 185 190

Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg
195 200 205

His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro
210 215 220

eolf-seql.txt

Ile Val Lys Ser Phe Asn Arg Asn Glu Cys
225 230

<210> 160
<211> 702
<212> DNA
<213> Mus musculus

```
<400> 160
atgatgtcct ctgctcagtt ccttggtctc ctgttgctct gttttcaagg taccagatgt      60
gatatccaga tgacacagac tacatcctcc ctgtctgcct ctctgggaga cagagtcacc      120
atctgttgca gggcaagtca ggtcattacc aattatttat actggtatca gcagaaacca      180
gatggaactt ttaaactcct gatctactac acatcaagat tacactcagg agtcccatca      240
aggttcagtg gcagtgggtc tggaacagat tattctctca ccattagcaa cctggaacag      300
gaagatattg ccacttactt ttgccaacag ggtgatacgc ttccgtacac gttcggaggg      360
gggaccaagc tggaaataaa acgggctgat gctgcaccaa ctgtatccat cttcccacca      420
tccagtgagc agttaacatc tggaggtgcc tcagtcgtgt gcttcttgaa caacttctac      480
cccaaagaca tcaatgtcaa gtggaagatt gatggcagtg aacgacaaaa tggcgtcctg      540
aacagttgga ctgatcagga cagcaaagac agcacctaca gcatgagcag caccctcacg      600
ttgaccaagg acgagtatga acgacataac agctatacct gtgaggccac tcacaagaca      660
tcaacttcac ccattgtcaa gagcttcaac aggaatgagt gt                                702
```

<210> 161
<211> 447
<212> PRT
<213> Mus musculus

```
<400> 161
Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Met Lys Pro Gly Ala
1          5          10          15

Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
          20          25          30

Asn Met His Trp Met Lys Gln Asn Gln Gly Lys Ser Leu Glu Trp Ile
          35          40          45

Gly Glu Ile Asn Pro Asn Ser Gly Gly Ala Gly Tyr Asn Gln Gln Phe
50          55          60

Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Arg Thr Ala Tyr
65          70          75          80

Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
          85          90          95

Ala Arg Leu Gly Tyr Val Gly Asn Tyr Glu Asp Trp Tyr Phe Asp Val
```


eofl-seql.txt

100

105

110

Trp Gly Ala Gly Thr Thr Val Thr Val Ser Ser Ala Lys Thr Thr Pro
115 120 125

Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr Asn Ser
130 135 140

Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val
145 150 155 160

Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr Phe
165 170 175

Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val Thr
180 185 190

Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys Asn Val Ala
195 200 205

His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val Pro Arg Asp
210 215 220

Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu Val Ser Ser Val
225 230 235 240

Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr Ile Thr Leu Thr
245 250 255

Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys Asp Asp Pro Glu
260 265 270

Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val His Thr Ala Gln
275 280 285

Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser Val Ser
290 295 300

Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly Lys Glu Phe Lys
305 310 315 320

Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu Lys Thr Ile
325 330 335

Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr Ile Pro
340 345 350

Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr Cys Met
355 360 365

Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln Trp Asn

370

375

380

Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met Asp Thr
 385 390 395 400

Asp Gly Ser Tyr Phe Ile Tyr Ser Lys Leu Asn Val Gln Lys Ser Asn
 405 410 415

Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu Gly Leu
 420 425 430

His Asn His His Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys
 435 440 445

<210> 162
 <211> 1341
 <212> DNA
 <213> Mus musculus

<400> 162
 gaggtccagc tgcaacagtc tggacctgaa ctaatgaagc ctggggcttc agtgaagatg 60
 tcctgcaagg cttctggata cacattcact gactacaaca tgcactggat gaagcagaac 120
 caaggaaaga gcctagaatg gataggagaa attaataccta acagtgggtgg tgctggctac 180
 aaccagcagt tcaaaggcaa ggccacattg actgtagaca agtcctccag gacagcctac 240
 atggagctcc gcagcctgac atctgaggac tctgcagtct attactgtgc aagattgggc 300
 tacgttggtg attacgagga ctggtacttc gatgtctggg gcgcagggac cacggtcacc 360
 gtctcctcag ccaaaacgac acccccatct gtctatccac tggcccctgg atctgctgcc 420
 caaactaact ccatgggtgac cctgggatgc ctgggtcaagg gctattttccc tgagccagtg 480
 acagtgcact ggaactctgg atccctgtcc agcgggtgtgc acaccttccc agctgtcctg 540
 cagtctgacc tctacactct gagcagctca gtgactgtcc cctccagcac ctggcccagc 600
 gagaccgtca cctgcaacgt tgcccacccg gccagcagca ccaaggtgga caagaaaatt 660
 gtgcccaggg attgtggttg taagccttgc atatgtacag tcccagaagt atcatctgtc 720
 ttcatcttcc ccccaaagcc caaggatgtg ctcaccatta ctctgactcc taaggtcacg 780
 tgtgttgttg tagacatcag caaggatgat cccgaggtcc agttcagctg gttttagat 840
 gatgtggagg tgcacacagc tcagacgcaa cccgaggagg agcagttcaa cagcactttc 900
 cgctcagtca gtgaacttcc catcatgcac caggactggc tcaatggcaa ggagttcaaa 960
 tgcaggggtca acagtgcagc tttccctgcc cccatcgaga aaaccatctc caaaacaaaa 1020
 ggagaccga aggtccaca ggtgtacacc attccacctc ccaaggagca gatggccaag 1080
 gataaagtca gtctgacctg catgataaca gacttcttcc ctgaagacat tactgtggag 1140
 tggcagtgga atgggcagcc agcggagaac tacaagaaca ctgagcccat catggacaca 1200
 gatggctctt acttcatcta cagcaagctc aatgtgcaga agagcaactg ggaggcagga 1260
 aatactttca cctgctctgt gttacatgag ggctgcaca accaccatac tgagaagagc 1320

ctctcccact ctcctggtaa a

1341

<210> 163
 <211> 466
 <212> PRT
 <213> Mus musculus

<400> 163

Met Gly Trp Ser Trp Thr Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly
 1 5 10 15

Val Leu Ser Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Met Lys
 20 25 30

Pro Gly Ala Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe
 35 40 45

Thr Asp Tyr Asn Met His Trp Met Lys Gln Asn Gln Gly Lys Ser Leu
 50 55 60

Glu Trp Ile Gly Glu Ile Asn Pro Asn Ser Gly Gly Ala Gly Tyr Asn
 65 70 75 80

Gln Gln Phe Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Arg
 85 90 95

Thr Ala Tyr Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val
 100 105 110

Tyr Tyr Cys Ala Arg Leu Gly Tyr Val Gly Asn Tyr Glu Asp Trp Tyr
 115 120 125

Phe Asp Val Trp Gly Ala Gly Thr Thr Val Thr Val Ser Ser Ala Lys
 130 135 140

Thr Thr Pro Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln
 145 150 155 160

Thr Asn Ser Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro
 165 170 175

Glu Pro Val Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val
 180 185 190

His Thr Phe Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser
 195 200 205

Ser Val Thr Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys
 210 215 220

Asn Val Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val

eolf-seql.txt

```

<400> 164
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gtccagctgc aacagtctgg acctgaacta atgaagcctg gggcttcagt gaagatgtcc      120
tgcaaggctt ctggatacac attcactgac tacaacatgc actggatgaa gcagaaccaa      180
ggaaagagcc tagaatggat aggagaaatt aatcctaaca gtggtggtgc tggctacaac      240
cagcagttca aaggcaaggc cacattgact gtagacaagt cctccaggac agcctacatg      300
gagctccgca gcctgacatc tgaggactct gcagtctatt actgtgcaag attgggctac      360
gttggttaatt acgaggactg gtacttcgat gtctggggcg cagggaccac ggtcaccgtc      420
tcctcagcca aaacgacacc cccatctgtc tatccactgg cccctggatc tgctgcccaa      480
actaactcca tgggtgaccct gggatgcctg gtcaagggct atttcctga gccagtgaca      540
gtgacctgga actctggatc cctgtccagc ggtgtgcaca ccttcccagc tgtcctgcag      600
tctgacctct acactctgag cagctcagtg actgtccctt ccagcacctg gccagcgag      660
accgtcacct gcaacgttgc ccacccggcc agcagcacca aggtggacaa gaaaattgtg      720
cccagggatt gtggttgtaa gccttgcata tgtacagtcc cagaagtatc atctgtcttc      780
atcttcccc caaagcccaa ggatgtgtc accattactc tgactcctaa ggtcacgtgt      840
gttgtggtag acatcagcaa ggatgatccc gaggtccagt tcagctgggt tgtagatgat      900
gtggagggtg acacagctca gacgcaacc cgggaggagc agttcaacag cactttccgc      960
tcagtcagtg aacttcccat catgcaccag gactggctca atggcaagga gttcaaatgc     1020
agggtaaca gtgcagcttt ccttgcccc atcgagaaaa ccatctccaa aaccaaaggc     1080
agaccgaagg ctccacaggt gtacaccatt ccacctcca aggagcagat ggccaaggat     1140
aaagtcagtc tgacctgcat gataacagac ttcttccttg aagacattac tgtggagtgg     1200
cagtggaatg ggcagccagc ggagaactac aagaacactc agcccatcat ggacacagat     1260
ggctcttact tcattctacag caagctcaat gtgcagaaga gcaactggga ggcaggaaat     1320
actttcacct gctctgtgtt acatgagggc ctgcacaacc accatactga gaagagcctc     1380
tcccactctc ctggtaaa                                     1398

```

```

<210> 165
<211> 214
<212> PRT
<213> Mus musculus

```

```

<400> 165
Asp Ile Gln Met Thr Gln Thr Thr Ser Ser Leu Ser Ala Ser Leu Gly
1           5           10          15

Asp Arg Val Ser Ile Ser Cys Arg Ala Ser Gln Asp Ile Ser Asn Tyr
          20          25          30

Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Phe Lys Leu Leu Ile
          35          40          45

```

eolf-seql.txt

Phe Tyr Thr Ser Arg Leu Leu Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Tyr Asn Leu Glu Gln
65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Gly Asp Thr Leu Pro Tyr
85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala Asp Ala Ala
100 105 110

Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln Leu Thr Ser Gly
115 120 125

Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr Pro Lys Asp Ile
130 135 140

Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln Asn Gly Val Leu
145 150 155 160

Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met Ser
165 170 175

Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg His Asn Ser Tyr
180 185 190

Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro Ile Val Lys Ser
195 200 205

Phe Asn Arg Asn Glu Cys
210

<210> 166
<211> 645
<212> DNA
<213> Mus musculus

<400> 166
gatatccaga tgacacagac tacatcctcc ctgtctgcct ctctgggaga cagggctctcc 60
atcagttgca gggcaagtca agacattagc aattatttaa actggtatca gcagaaacca 120
gatggaactt ttaaactcct tatcttctac acatcaagat tactctcagg agtcccatca 180
aggttcagtg gcagtgggtc tggaacagat tattctctca ccatttaca cctggagcaa 240
gaagattttg ccacttactt ttgccaacag ggagatacgc ttccgtacac tttcggaggg 300
gggaccaaac tggaaataaa acgggctgat gctgcaccaa ctgtatccat cttccacca 360
tccagtgagc agttaacatc tggaggtgcc tcagtcgtgt gcttcttgaa caacttctac 420
cccaaagaca tcaatgtcaa gtggaagatt gatggcagtg aacgacaaaa tggcgtcctg 480
aacagttgga ctgatcagga cagcaaagac agcacctaca gcatgagcag caccctcacg 540

eolf-seql.txt

ttgaccaagg acgagtatga acgacataac agctatacct gtgaggccac tcacaagaca 600
tcaacttcac ccattgtcaa gagcttcaac aggaatgagt gtttag 645

<210> 167
<211> 234
<212> PRT
<213> Mus musculus

<400> 167

Met Met Ser Ser Ala Gln Phe Leu Gly Leu Leu Leu Leu Cys Phe Gln
1 5 10 15

Gly Thr Arg Cys Asp Ile Gln Met Thr Gln Thr Thr Ser Ser Leu Ser
20 25 30

Ala Ser Leu Gly Asp Arg Val Ser Ile Ser Cys Arg Ala Ser Gln Asp
35 40 45

Ile Ser Asn Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Phe
50 55 60

Lys Leu Leu Ile Phe Tyr Thr Ser Arg Leu Leu Ser Gly Val Pro Ser
65 70 75 80

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Tyr
85 90 95

Asn Leu Glu Gln Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Gly Asp
100 105 110

Thr Leu Pro Tyr Thr Phe Gly Gly Thr Lys Leu Glu Ile Lys Arg
115 120 125

Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln
130 135 140

Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr
145 150 155 160

Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln
165 170 175

Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr
180 185 190

Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg
195 200 205

His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro
210 215 220

eolf-seql.txt

Ile Val Lys Ser Phe Asn Arg Asn Glu Cys
225 230

<210> 168
<211> 705
<212> DNA
<213> Mus musculus

```
<400> 168
atgatgtcct ctgctcagtt ccttggtctc ctgttgctct gttttcaagg taccagatgt      60
gatatccaga tgacacagac tacatcctcc ctgtctgcct ctctgggaga caggggtctcc      120
atcagttgca gggcaagtca agacattagc aattatttaa actggtatca gcagaaacca      180
gatggaactt ttaaactcct tatcttctac acatcaagat tactctcagg agtcccatca      240
aggttcagtg gcagtgggtc tggaacagat tattctctca ccatttaca cctggagcaa      300
gaagattttg ccacttactt ttgccaacag ggagatacgc ttccgtacac tttcggaggg      360
gggaccaaac tggaaataaa acgggctgat gctgcaccaa ctgtatccat cttcccacca      420
tccagtgagc agttaacatc tggaggtgcc tcagtcgtgt gcttcttgaa caacttctac      480
cccaaagaca tcaatgtcaa gtggaagatt gatggcagtg aacgacaaaa tggcgtcctg      540
aacagttgga ctgatcagga cagcaaagac agcacctaca gcatgagcag caccctcacg      600
ttgaccaagg acgagtatga acgacataac agctatacct gtgaggccac tcacaagaca      660
tcaacttcac ccattgtcaa gagcttcaac aggaatgagt gttag                          705
```

<210> 169
<211> 447
<212> PRT
<213> Mus musculus

```
<400> 169
Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Met Lys Pro Gly Ala
1          5          10          15

Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
          20          25          30

Asn Met His Trp Val Lys Gln Asn Gln Gly Lys Thr Leu Asp Trp Ile
          35          40          45

Gly Glu Ile Asn Pro Asn Ser Gly Gly Ala Gly Tyr Asn Gln Lys Phe
50          55          60

Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Thr Thr Ala Tyr
65          70          75          80

Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
          85          90          95

Ala Arg Leu Gly Tyr Asp Asp Ile Tyr Asp Asp Trp Tyr Phe Asp Val
Page 104
```


eolf-seql.txt

100

105

110

Trp Gly Ala Gly Thr Thr Val Thr Val Ser Ser Ala Lys Thr Thr Pro
 115 120 125

Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr Asn Ser
 130 135 140

Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val
 145 150 155 160

Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr Phe
 165 170 175

Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val Thr
 180 185 190

Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys Asn Val Ala
 195 200 205

His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val Pro Arg Asp
 210 215 220

Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu Val Ser Ser Val
 225 230 235 240

Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr Ile Thr Leu Thr
 245 250 255

Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys Asp Asp Pro Glu
 260 265 270

Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val His Thr Ala Gln
 275 280 285

Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser Val Ser
 290 295 300

Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly Lys Glu Phe Lys
 305 310 315 320

Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu Lys Thr Ile
 325 330 335

Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr Ile Pro
 340 345 350

Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr Cys Met
 355 360 365

Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln Trp Asn

370

375

380

Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met Asp Thr
 385 390 395 400

Asp Gly Ser Tyr Phe Ile Tyr Ser Lys Leu Asn Val Gln Lys Ser Asn
 405 410 415

Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu Gly Leu
 420 425 430

His Asn His His Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys
 435 440 445

<210> 170
 <211> 1344
 <212> DNA
 <213> Mus musculus

<400> 170
 gaggtccaac tgcaacagtc tggacctgaa ctaatgaagc ctggggcttc agtgaagatg 60
 tcctgcaagg cttctggata tacattcact gactacaaca tgcactgggt gaagcagaac 120
 caaggaaaga ccctagactg gataggagaa attaataccta acagtgggtg tgctggctac 180
 aaccagaagt tcaagggcaa ggccacattg actgtagaca agtcctccac cacagcctac 240
 atggagctcc gcagcctgac atctgaggac tctgcagtct attactgtgc aagattgggc 300
 tacgatgata tctacgacga ctggtacttc gatgtctggg gcgcagggac cacggtcacc 360
 gtctcctcag ccaaaacgac acccccatct gtctatccac tggcccctgg atctgctgcc 420
 caaactaact ccatgggtgac cctgggatgc ctggtcaagg gctatttccc tgagccagtg 480
 acagtgacct ggaactctgg atccctgtcc agcgggtgtgc acaccttccc agctgtcctg 540
 cagtctgacc tctacactct gagcagctca gtgactgtcc cctccagcac ctggcccagc 600
 gagaccgtca cctgcaacgt tgcccacccg gccagcagca ccaaggtgga caagaaaatt 660
 gtgcccaggg attgtggttg taagccttgc atatgtacag tcccagaagt atcatctgtc 720
 ttcatcttcc ccccaaagcc caaggatgtg ctcaccatta ctctgactcc taaggtcacg 780
 tgtgttgtgg tagacatcag caaggatgat cccgaggtcc agttcagctg gttttagat 840
 gatgtggagg tgcacacagc tcagacgcaa cccgaggagg agcagttcaa cagcactttc 900
 cgctcagtca gtgaacttcc catcatgcac caggactggc tcaatggcaa ggagttcaaa 960
 tgcaggggtca acagtgcagc tttccctgcc cccatcgaga aaaccatctc caaaacaaaa 1020
 ggagaccga aggtccaca ggtgtacacc attccacctc ccaaggagca gatggccaag 1080
 gataaagtca gtctgacctg catgataaca gacttcttcc ctgaagacat tactgtggag 1140
 tggcagtgga atgggcagcc agcggagaac tacaagaaca ctgagcccat catggacaca 1200
 gatggctctt acttcatcta cagcaagctc aatgtgcaga agagcaactg ggaggcagga 1260
 aatactttca cctgctctgt gttacatgag ggctgcaca accaccatac tgagaagagc 1320

ctctcccact ctcctggtaa atga

1344

<210> 171
 <211> 466
 <212> PRT
 <213> Mus musculus

<400> 171

Met Gly Trp Ser Trp Thr Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly
 1 5 10 15

Val Leu Ser Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Met Lys
 20 25 30

Pro Gly Ala Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe
 35 40 45

Thr Asp Tyr Asn Met His Trp Val Lys Gln Asn Gln Gly Lys Thr Leu
 50 55 60

Asp Trp Ile Gly Glu Ile Asn Pro Asn Ser Gly Gly Ala Gly Tyr Asn
 65 70 75 80

Gln Lys Phe Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Thr
 85 90 95

Thr Ala Tyr Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val
 100 105 110

Tyr Tyr Cys Ala Arg Leu Gly Tyr Asp Asp Ile Tyr Asp Asp Trp Tyr
 115 120 125

Phe Asp Val Trp Gly Ala Gly Thr Thr Val Thr Val Ser Ser Ala Lys
 130 135 140

Thr Thr Pro Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln
 145 150 155 160

Thr Asn Ser Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro
 165 170 175

Glu Pro Val Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val
 180 185 190

His Thr Phe Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser
 195 200 205

Ser Val Thr Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys
 210 215 220

Asn Val Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val
 Page 107

eolf-seql.txt															
225				230				235				240			
Pro	Arg	Asp	Cys	Gly 245	Cys	Lys	Pro	Cys	Ile 250	Cys	Thr	Val	Pro	Glu 255	Val
Ser	Ser	Val	Phe 260	Ile	Phe	Pro	Pro	Lys 265	Pro	Lys	Asp	Val	Leu 270	Thr	Ile
Thr	Leu	Thr 275	Pro	Lys	Val	Thr	Cys 280	Val	Val	Val	Asp	Ile 285	Ser	Lys	Asp
Asp	Pro 290	Glu	Val	Gln	Phe	Ser 295	Trp	Phe	Val	Asp	Asp 300	Val	Glu	Val	His
Thr 305	Ala	Gln	Thr	Gln	Pro 310	Arg	Glu	Glu	Gln	Phe 315	Asn	Ser	Thr	Phe	Arg 320
Ser	Val	Ser	Glu	Leu 325	Pro	Ile	Met	His	Gln 330	Asp	Trp	Leu	Asn	Gly 335	Lys
Glu	Phe	Lys	Cys 340	Arg	Val	Asn	Ser	Ala 345	Ala	Phe	Pro	Ala	Pro 350	Ile	Glu
Lys	Thr	Ile 355	Ser	Lys	Thr	Lys	Gly 360	Arg	Pro	Lys	Ala	Pro 365	Gln	Val	Tyr
Thr 370	Ile	Pro	Pro	Pro	Lys	Glu 375	Gln	Met	Ala	Lys	Asp 380	Lys	Val	Ser	Leu
Thr 385	Cys	Met	Ile	Thr	Asp 390	Phe	Phe	Pro	Glu	Asp 395	Ile	Thr	Val	Glu	Trp 400
Gln	Trp	Asn	Gly	Gln 405	Pro	Ala	Glu	Asn	Tyr 410	Lys	Asn	Thr	Gln	Pro 415	Ile
Met	Asp	Thr	Asp 420	Gly	Ser	Tyr	Phe	Ile 425	Tyr	Ser	Lys	Leu	Asn 430	Val	Gln
Lys	Ser	Asn 435	Trp	Glu	Ala	Gly	Asn 440	Thr	Phe	Thr	Cys	Ser 445	Val	Leu	His
Glu	Gly 450	Leu	His	Asn	His	His 455	Thr	Glu	Lys	Ser	Leu 460	Ser	His	Ser	Pro
Gly 465															
<210>		172													
<211>		1401													
<212>		DNA													
<213>		Mus musculus													

eolf-seql.txt

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<400> 172
atgggatgga gctggacctt tctcttcctc ctgtcaggaa ctgcaggtgt cctctctgag      60
gtccaactgc aacagtctgg acctgaacta atgaagcctg gggcttcagt gaagatgtcc      120
tgcaaggctt ctggatatac attcactgac tacaacatgc actgggtgaa gcagaaccaa      180
ggaaagaccc tagactggat aggagaaatt aatcctaaca gtggtggtgc tggctacaac      240
cagaagttca agggcaaggc cacattgact gtagacaagt cctccaccac agcctacatg      300
gagctccgca gcctgacatc tgaggactct gcagtctatt actgtgcaag attgggctac      360
gatgatatct acgacgactg gtacttcgat gtctggggcg cagggaccac ggtcaccgtc      420
tcctcagcca aaacgacacc cccatctgtc tatccactgg cccctggatc tgctgcccaa      480
actaactcca tgggtgaccct gggatgcctg gtcaagggtt atttcctga gccagtgaca      540
gtgacctgga actctggatc cctgtccagc ggtgtgcaca ccttcccagc tgtcctgcag      600
tctgacctct acactctgag cagctcagtg actgtccctt ccagcacctg gccagcgag      660
accgtcacct gcaacgttgc ccacccggcc agcagcacca aggtggacaa gaaaattgtg      720
cccagggatt gtggttgtaa gccttgcata tgtacagtcc cagaagtatc atctgtcttc      780
atcttcccc caaagcccaa ggatgtgtc accattactc tgactcctaa ggtcacgtgt      840
gttgtggtag acatcagcaa ggatgatccc gaggtccagt tcagctgggt tgtagatgat      900
gtggagggtg acacagctca gacgcaacc cgggaggagc agttcaacag cactttccgc      960
tcagtcaagt aacttcccat catgcaccag gactggctca atggcaagga gttcaaatgc     1020
aggttcaaca gtgcagcttt ccttgcccc atcgagaaaa ccatctccaa aaccaaaggc     1080
agaccgaagg ctccacaggt gtacaccatt ccacctcca aggagcagat ggccaaggat     1140
aaagtcagtc tgacctgcat gataacagac ttcttccttg aagacattac tgtggagtgg     1200
cagtggaatg ggcagccagc ggagaactac aagaacactc agcccatcat ggacacagat     1260
ggctcttact tcattctacag caagctcaat gtgcagaaga gcaactggga ggcaggaaat     1320
actttcacct gctctgtgtt acatgagggc ctgcacaacc accatactga gaagagcctc     1380
tcccactctc ctggtaaatg a                                     1401

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<210> 173
<211> 214
<212> PRT
<213> Mus musculus

```

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<400> 173
Asp Ile Gln Met Thr Gln Ile Thr Ser Ser Leu Ser Ala Ser Leu Gly
1           5           10           15

Asp Arg Val Ser Ile Ser Cys Arg Ala Ser Gln Asp Ile Ser Asn Tyr
          20           25           30

Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Phe Lys Leu Leu Ile
          35           40           45

```

eolf-seql.txt

Phe Tyr Thr Ser Arg Leu Phe Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Tyr Asn Leu Glu Gln
65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Gly Asp Thr Leu Pro Tyr
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Ala Asp Ala Ala
100 105 110

Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln Leu Thr Ser Gly
115 120 125

Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr Pro Lys Asp Ile
130 135 140

Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln Asn Gly Val Leu
145 150 155 160

Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met Ser
165 170 175

Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg His Asn Ser Tyr
180 185 190

Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro Ile Val Lys Ser
195 200 205

Phe Asn Arg Asn Glu Cys
210

<210> 174
<211> 642
<212> DNA
<213> Mus musculus

<400> 174
gatatccaga tgacacagat tacatcctcc ctgtctgcct ctctgggaga cagggctctcc 60
atcagttgca gggcaagtca agacattagc aattatttaa attggtatca gcagaaacca 120
gatggaactt ttaaactcct tatcttctac acatcaagat ttttttcagg agtcccatca 180
aggttcagtg gcagtgggtc tggaacagat tattctctca ccatttaca cctggagcaa 240
gaagattttg ccacttactt ttgccaacag ggagatacgc ttccgtacac tttcggaggg 300
gggaccaagg tggaaataaa acgggctgat gctgcaccaa ctgtatccat cttccacca 360
tccagtgagc agttaacatc tggaggtgcc tcagtcgtgt gcttcttgaa caacttctac 420
cccaaagaca tcaatgtcaa gtggaagatt gatggcagtg aacgacaaaa tggcgtcctg 480
aacagttgga ctgatcagga cagcaaagac agcacctaca gcatgagcag caccctcacg 540

eolf-seql.txt

ttgaccaagg acgagtatga acgacataac agctatacct gtgaggccac tcacaagaca 600
tcaacttcac ccattgtcaa gagcttcaac aggaatgagt gt 642

<210> 175
<211> 234
<212> PRT
<213> Mus musculus

<400> 175

Met Met Ser Ser Ala Gln Phe Leu Gly Leu Leu Leu Leu Cys Phe Gln
1 5 10 15

Gly Thr Arg Cys Asp Ile Gln Met Thr Gln Ile Thr Ser Ser Leu Ser
20 25 30

Ala Ser Leu Gly Asp Arg Val Ser Ile Ser Cys Arg Ala Ser Gln Asp
35 40 45

Ile Ser Asn Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Phe
50 55 60

Lys Leu Leu Ile Phe Tyr Thr Ser Arg Leu Phe Ser Gly Val Pro Ser
65 70 75 80

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Tyr
85 90 95

Asn Leu Glu Gln Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Gly Asp
100 105 110

Thr Leu Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg
115 120 125

Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln
130 135 140

Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr
145 150 155 160

Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln
165 170 175

Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr
180 185 190

Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg
195 200 205

His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro
210 215 220

eolf-seql.txt

Ile Val Lys Ser Phe Asn Arg Asn Glu Cys
225 230

<210> 176
<211> 702
<212> DNA
<213> Mus musculus

<400> 176
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gatatccaga tgacacagat tacatcctcc ctgtctgcct ctctgggaga caggggtctcc 120
atcagttgca gggcaagtca agacattagc aattatttaa attggtatca gcagaaacca 180
gatggaactt ttaaactcct tatcttctac acatcaagat tattttcagg agtcccatca 240
aggttcagtg gcagtgggtc tggaacagat tattctctca ccatttacia cctggagcaa 300
gaagattttg ccacttactt ttgccaacag ggagatacgc ttccgtacac tttcggaggg 360
gggaccaagg tggaataaaa acgggctgat gctgcaccaa ctgtatccat cttcccacca 420
tccagtgagc agttaacatc tggaggtgcc tcagtcgtgt gcttcttgaa caacttctac 480
cccaaagaca tcaatgtcaa gtggaagatt gatggcagtg aacgacaaaa tggcgtcctg 540
aacagttgga ctgatcagga cagcaaagac agcacctaca gcatgagcag caccctcacg 600
ttgaccaagg acgagtatga acgacataac agctatacct gtgaggccac tcacaagaca 660
tcaacttcac ccattgtcaa gagcttcaac aggaatgagt gt 702

<210> 177
<211> 450
<212> PRT
<213> Mus musculus

<400> 177
Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Met Lys Pro Gly Thr
1 5 10 15
Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30
Asn Met His Trp Val Lys Gln Thr Gln Gly Lys Thr Leu Glu Trp Ile
35 40 45
Gly Glu Ile Asn Pro Asn Ser Gly Gly Ala Gly Tyr Asn Gln Lys Phe
50 55 60
Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Thr Thr Ala Tyr
65 70 75 80
Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
85 90 95
Ala Lys Leu Gly Tyr Asp Asp Ile Tyr Asp Asp Trp Tyr Phe Asp Val
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eolf-seql.txt

100

105

110

Trp Gly Ala Gly Thr Thr Val Thr Val Ser Ser Ala Lys Thr Thr Ala
 115 120 125

Pro Ser Val Tyr Pro Leu Ala Pro Val Cys Gly Asp Thr Thr Gly Ser
 130 135 140

Ser Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val
 145 150 155 160

Thr Leu Thr Trp Asn Ser Gly Ser Leu Ser Ser Asp Val His Thr Phe
 165 170 175

Pro Ala Leu Leu Gln Ser Gly Leu Tyr Thr Leu Ser Ser Ser Val Thr
 180 185 190

Val Thr Thr Trp Pro Ser Gln Thr Ile Thr Cys Asn Val Ala His Pro
 195 200 205

Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Glu Pro Arg Gly Ser Pro
 210 215 220

Thr His Lys Pro Cys Pro Pro Cys Pro Ala Pro Asn Leu Leu Gly Gly
 225 230 235 240

Pro Ser Val Phe Ile Phe Pro Pro Lys Ile Lys Asp Val Leu Met Ile
 245 250 255

Ser Leu Ser Pro Met Val Thr Cys Val Val Val Asp Val Ser Glu Asp
 260 265 270

Asp Pro Asp Val His Val Ser Trp Phe Val Asn Asn Val Glu Val His
 275 280 285

Thr Ala Gln Thr Gln Thr His Arg Glu Asp Tyr Asn Ser Thr Ile Arg
 290 295 300

Val Val Ser Ala Leu Pro Ile Gln His Gln Asp Trp Met Ser Gly Lys
 305 310 315 320

Glu Phe Lys Cys Lys Val Asn Asn Lys Ala Leu Pro Ala Pro Ile Glu
 325 330 335

Arg Thr Ile Ser Lys Pro Lys Gly Pro Val Arg Ala Pro Gln Val Tyr
 340 345 350

Val Leu Pro Pro Pro Glu Glu Glu Met Thr Lys Lys Gln Val Thr Leu
 355 360 365

Thr Cys Met Ile Thr Asp Phe Met Pro Glu Asp Ile Tyr Val Glu Trp
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370

375

380

Thr Asn Asn Gly Gln Thr Glu Leu Asn Tyr Lys Asn Thr Glu Pro Val
 385 390 395 400

Leu Asp Ser Asp Gly Ser Tyr Phe Met Tyr Ser Lys Leu Arg Val Glu
 405 410 415

Lys Lys Asn Trp Val Glu Arg Asn Ser Tyr Ser Cys Ser Val Val His
 420 425 430

Glu Gly Leu His Asn His His Thr Thr Lys Ser Phe Ser Arg Thr Pro
 435 440 445

Gly Lys
 450

<210> 178
 <211> 1350
 <212> DNA
 <213> Mus musculus

<400> 178
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 tcctgcaagg cttctggata tacattcact gactacaaca tgcactgggt gaagcagacc 120
 caaggaaaga ccctagagtg gataggagaa attaatccta acagtgggtg tgctggctac 180
 aaccagaagt tcaagggcaa ggccacattg actgtagaca agtcctccac cacagcctac 240
 atggagctcc gcagcctgac atctgaggac tctgcagtct attactgtgc aaaattgggc 300
 tacgatgata tctacgacga ctggtatttc gatgtctggg gcgcagggac cacggtcacc 360
 gtctcctcag ccaaaacaac agcccatcg gtctatccac tggcccctgt gtgtggagat 420
 acaactggct cctcgggtgac tctaggatgc ctgggtcaagg gttatttccc tgagccagtg 480
 accttgacct ggaactctgg atccctgtcc agtgatgtgc acaccttccc agctctcctg 540
 cagtctggcc tctacaccct cagcagctca gtgactgtaa ccacctggcc cagccagacc 600
 atcacctgca atgtggccca cccggcaagc agcaccaaag tggacaagaa aattgagccc 660
 agagggtccc caacacataa accctgtcct ccatgcccag ctccctaacct cttgggtgga 720
 ccatccgtct tcatcttccc tccaaagatc aaggatgtac tcatgatctc cctgagcccc 780
 atgggtcacgt gtgtgggtgg ggatgtgagc gaggatgacc cagatgtcca tgtcagctgg 840
 ttcgtgaaca acgtggaagt acacacagct cagacacaaa cccatagaga ggattacaac 900
 agtactatcc ggggtggtcag tgcctcccc atccagcacc aggactggat gagtggcaag 960
 gagttcaaat gcaaggtcaa caacaaagcc ctcccagcgc ccatcgagag aaccatctca 1020
 aaacccaaag ggccagtaag agctccacag gtatatgtct tgcctccacc agaagaagag 1080
 atgactaaga aacaggtcac tctgacctgc atgatcacag acttcatgcc tgaagacatt 1140
 tacgtggagt ggaccaacaa cgggcaaaca gagctaaact acaagaacac tgaaccagtc 1200

eolf-seql.txt

ctggactctg atggttctta cttcatgtac agcaagctga gagtggaaaa gaagaactgg 1260
 gtggaaagaa atagctactc ctgttcagtg gtccacgagg gtctgcacaa tcaccacacg 1320
 actaagagct tctcccggac tccgggtaaa 1350

<210> 179
 <211> 469
 <212> PRT
 <213> Mus musculus

<400> 179

Met Gly Trp Ser Trp Thr Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly
 1 5 10 15

Val Leu Ser Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Met Lys
 20 25 30

Pro Gly Thr Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe
 35 40 45

Thr Asp Tyr Asn Met His Trp Val Lys Gln Thr Gln Gly Lys Thr Leu
 50 55 60

Glu Trp Ile Gly Glu Ile Asn Pro Asn Ser Gly Gly Ala Gly Tyr Asn
 65 70 75 80

Gln Lys Phe Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Thr
 85 90 95

Thr Ala Tyr Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val
 100 105 110

Tyr Tyr Cys Ala Lys Leu Gly Tyr Asp Asp Ile Tyr Asp Asp Trp Tyr
 115 120 125

Phe Asp Val Trp Gly Ala Gly Thr Thr Val Thr Val Ser Ser Ala Lys
 130 135 140

Thr Thr Ala Pro Ser Val Tyr Pro Leu Ala Pro Val Cys Gly Asp Thr
 145 150 155 160

Thr Gly Ser Ser Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro
 165 170 175

Glu Pro Val Thr Leu Thr Trp Asn Ser Gly Ser Leu Ser Ser Asp Val
 180 185 190

His Thr Phe Pro Ala Leu Leu Gln Ser Gly Leu Tyr Thr Leu Ser Ser
 195 200 205

Ser Val Thr Val Thr Thr Trp Pro Ser Gln Thr Ile Thr Cys Asn Val
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210

215

Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Glu Pro Arg
225 230 235 240

Gly Ser Pro Thr His Lys Pro Cys Pro Pro Cys Pro Ala Pro Asn Leu
245 250 255

Leu Gly Gly Pro Ser Val Phe Ile Phe Pro Pro Lys Ile Lys Asp Val
260 265 270

Leu Met Ile Ser Leu Ser Pro Met Val Thr Cys Val Val Val Asp Val
275 280 285

Ser Glu Asp Asp Pro Asp Val His Val Ser Trp Phe Val Asn Asn Val
290 295 300

Glu Val His Thr Ala Gln Thr Gln Thr His Arg Glu Asp Tyr Asn Ser
305 310 315 320

Thr Ile Arg Val Val Ser Ala Leu Pro Ile Gln His Gln Asp Trp Met
325 330 335

Ser Gly Lys Glu Phe Lys Cys Lys Val Asn Asn Lys Ala Leu Pro Ala
340 345 350

Pro Ile Glu Arg Thr Ile Ser Lys Pro Lys Gly Pro Val Arg Ala Pro
355 360 365

Gln Val Tyr Val Leu Pro Pro Pro Glu Glu Glu Met Thr Lys Lys Gln
370 375 380

Val Thr Leu Thr Cys Met Ile Thr Asp Phe Met Pro Glu Asp Ile Tyr
385 390 395 400

Val Glu Trp Thr Asn Asn Gly Gln Thr Glu Leu Asn Tyr Lys Asn Thr
405 410 415

Glu Pro Val Leu Asp Ser Asp Gly Ser Tyr Phe Met Tyr Ser Lys Leu
420 425 430

Arg Val Glu Lys Lys Asn Trp Val Glu Arg Asn Ser Tyr Ser Cys Ser
435 440 445

Val Val His Glu Gly Leu His Asn His His Thr Thr Lys Ser Phe Ser
450 455 460

Arg Thr Pro Gly Lys
465

<210> 180

eolf-seql.txt

<211> 1407
<212> DNA
<213> Mus musculus

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<400> 180
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gtccaactgc aacagtctgg acctgaacta atgaagcctg ggacttcagt gaagatgtcc      120
tgcaaggctt ctggatatac attcactgac tacaacatgc actgggtgaa gcagacccaa      180
ggaaagaccc tagagtggat aggagaaatt aatcctaaca gtggtggtgc tggctacaac      240
cagaagttca agggcaaggc cacattgact gtagacaagt cctccaccac agcctacatg      300
gagctccgca gcctgacatc tgaggactct gcagtctatt actgtgcaaa attgggctac      360
gatgatattc acgacgactg gtatttcgat gtctggggcg cagggaccac ggtcaccgtc      420
tcctcagcca aaacaacagc cccatcggtc tatccactgg cccctgtgtg tggagataca      480
actggctcct cggtgactct aggatgcctg gtcaagggtt atttccctga gccagtgacc      540
ttgacctgga actctggatc cctgtccagt gatgtgcaca ccttcccagc tctcctgcag      600
tctggcctct acaccctcag cagctcagtg actgtaacca cctggcccag ccagaccatc      660
acctgcaatg tggcccaccc ggcaagcagc accaaagtgg acaagaaaat tgagcccaga      720
gggtccccaa cacataaacc ctgtcctcca tgcccagctc ctaacctctt ggggtggacca      780
tccgtcttca tcttccctcc aaagatcaag gatgtactca tgatctccct gagcccatg      840
gtcacgtgtg tgggtggtgga tgtgagcgag gatgaccag atgtccatgt cagctgggtc      900
gtgaacaacg tggaagtaca cacagctcag acacaaaccc atagagagga ttacaacagt      960
actatccggg tggtcagtgc cctccccatc cagcaccagg actggatgag tggcaaggag     1020
ttcaaagtca aggtcaacaa caaagccctc ccagcgccca tcgagagAAC catctcaaaa     1080
cccaaagggc cagtaagagc tccacaggta tatgtcttgc ctccaccaga agaagagatg     1140
actaagaaac aggtcactct gacctgcatg atcacagact tcatgcctga agacatttac     1200
gtggagtgga ccaacaacgg gcaaacagag ctaaactaca agaacactga accagtcttg     1260
gactctgatg gttcttactt catgtacagc aagctgagag tggaaaagaa gaactgggtg     1320
gaaagaaata gctactcctg ttcagtggtc cagcaggggtc tgcacaatca ccacacgact     1380
aagagcttct cccggactcc gggtaaa                                     1407

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<210> 181
<211> 214
<212> PRT
<213> Mus musculus

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<400> 181
Asp Ile Gln Met Thr Gln Thr Thr Ser Ser Leu Ser Ala Ser Leu Gly
1           5           10          15

Asp Arg Val Ser Ile Ser Cys Arg Ala Ser Gln Asp Ile Ser Asn Tyr
          20          25          30

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eolf-seql.txt

Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Phe Lys Leu Leu Ile
35 40 45

Phe Tyr Thr Ser Arg Leu Leu Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Tyr Asn Leu Glu Gln
65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Gly Asp Thr Leu Pro Tyr
85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala Asp Ala Ala
100 105 110

Pro Thr Val Ser Ile Phe Pro Leu Ser Ser Glu Gln Leu Thr Ser Gly
115 120 125

Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr Pro Lys Asp Ile
130 135 140

Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln Asn Gly Val Leu
145 150 155 160

Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met Ser
165 170 175

Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg His Asn Ser Tyr
180 185 190

Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro Ile Val Lys Ser
195 200 205

Phe Asn Arg Asn Glu Cys
210

<210> 182
<211> 645
<212> DNA
<213> Mus musculus

<400> 182
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atcagttgca gggcaagtca agacattagc aattatttaa actggtatca gcagaaacca 120
gatggaactt ttaaactcct tatcttctac acatcaagat tactctcagg agtcccatca 180
aggttcagtg gcagtgggtc tggaacagat tattctctca ccatttaciaa cctggagcaa 240
gaagattttg ccacttactt ttgccaacag ggagatacgc ttccgtacac tttcggaggg 300
gggaccaaac tggaataaaa acgggctgat gctgcaccaa ctgtatccat cttcccacta 360
tccagtgcgc agttaacatc tggaggtgcc tcaatcgtgt gcttcttgaa caacttctac 420

eolf-seql.txt

cccaaagaca tcaatgtcaa gtggaagatt gatggcagtg aacgacaaaa tggcgtcctg 480
aacagttgga ctgatcagga cagcaaagac agcacctaca gcatgagcag caccctcacg 540
ttgaccaagg acgagtatga acgacataac agctatacct gtgaggccac tcacaagaca 600
tcaacttcac ccattgtcaa gagcttcaac aggaatgagt gtttag 645

<210> 183
<211> 234
<212> PRT
<213> Mus musculus

<400> 183

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Gly Thr Arg Cys Asp Ile Gln Met Thr Gln Thr Thr Ser Ser Leu Ser
20 25 30

Ala Ser Leu Gly Asp Arg Val Ser Ile Ser Cys Arg Ala Ser Gln Asp
35 40 45

Ile Ser Asn Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Phe
50 55 60

Lys Leu Leu Ile Phe Tyr Thr Ser Arg Leu Leu Ser Gly Val Pro Ser
65 70 75 80

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Tyr
85 90 95

Asn Leu Glu Gln Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Gly Asp
100 105 110

Thr Leu Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg
115 120 125

Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Leu Ser Ser Glu Gln
130 135 140

Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr
145 150 155 160

Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln
165 170 175

Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr
180 185 190

Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg
195 200 205

eolf-seql.txt

His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro
210 215 220

Ile Val Lys Ser Phe Asn Arg Asn Glu Cys
225 230

<210> 184
<211> 705
<212> DNA
<213> Mus musculus

<400> 184
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gatatccaga tgacacagac tacatcctcc ctgtctgcct ctctgggaga caggggtctcc 120
atcagttgca gggcaagtca agacattagc aattatttaa actggtatca gcagaaacca 180
gatggaactt ttaaactcct tatcttctac acatcaagat tactctcagg agtcccatca 240
aggttcagtg gcagtgggtc tggaacagat tattctctca ccatttacia cctggagcaa 300
gaagattttg ccacttactt ttgccaacag ggagatacgc ttccgtacac tttcggaggg 360
gggaccaaac tggaaataaa acgggctgat gctgcaccaa ctgtatccat cttcccacta 420
tccagtgagc agttaacatc tggaggtgcc tcagtcgtgt gcttcttgaa caacttctac 480
cccaaagaca tcaatgtcaa gtggaagatt gatggcagtg aacgacaaaa tggcgtcctg 540
aacagttgga ctgatcagga cagcaaagac agcacctaca gcatgagcag caccctcacg 600
ttgaccaagg acgagtatga acgacataac agctatacct gtgaggccac tcacaagaca 660
tcaacttcac ccattgtcaa gagcttcaac aggaatgagt gtttag 705

<210> 185
<211> 447
<212> PRT
<213> Mus musculus

<400> 185

Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Met Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Asn Met His Trp Val Lys Gln Asn Gln Gly Lys Thr Leu Glu Trp Ile
35 40 45

Gly Glu Ile Asn Pro Asn Ser Gly Gly Ala Gly Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Thr Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
Page 120

Ala Arg Leu Gly Tyr Asp Asp Ile Tyr Asp Asp Trp Tyr Phe Asp Val
 100 105 110
 Trp Gly Ala Gly Thr Thr Val Thr Val Ser Ser Ala Lys Thr Thr Pro
 115 120 125
 Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr Asn Ser
 130 135 140
 Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val
 145 150 155 160
 Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr Phe
 165 170 175
 Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val Thr
 180 185 190
 Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys Asn Val Ala
 195 200 205
 His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val Pro Arg Asp
 210 215 220
 Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu Val Ser Ser Val
 225 230 235 240
 Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr Ile Thr Leu Thr
 245 250 255
 Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys Asp Asp Pro Glu
 260 265 270
 Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val His Thr Ala Gln
 275 280 285
 Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser Val Ser
 290 295 300
 Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly Lys Glu Phe Lys
 305 310 315 320
 Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu Lys Thr Ile
 325 330 335
 Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr Ile Pro
 340 345 350
 Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr Cys Met

355

360

365

Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln Trp Asn
 370 375 380

Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met Asp Thr
 385 390 395 400

Asp Gly Ser Tyr Phe Ile Tyr Ser Lys Leu Asn Val Gln Lys Ser Asn
 405 410 415

Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu Gly Leu
 420 425 430

His Asn His His Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys
 435 440 445

<210> 186
 <211> 1344
 <212> DNA
 <213> Mus musculus

<400> 186
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 tcctgcaagg cttctggata tacattcact gactacaaca tgcactgggt gaagcagaac 120
 caaggaaaga ccctagaatg gataggagaa attaatccta acagtgggtg tgctggctac 180
 aaccagaagt tcaagggcaa ggccacattg actgtagaca agtcctccac cacagcctac 240
 atggagctcc gcagcctgac atctgaggac tctgcagtct attactgtgc aagattgggc 300
 tacgatgata tctacgacga ctggtacttc gatgtctggg gcgcagggac cacggtcacc 360
 gtctcctcag ccaaaacgac acccccatct gtctatccac tggcccctgg atctgctgcc 420
 caaactaact ccatggtgac cctgggatgc ctgggtcaagg gctatttccc tgagccagtg 480
 acagtgcact ggaactctgg atccctgtcc agcgggtgtgc acaccttccc agctgtcctg 540
 cagtctgacc tctacactct gagcagctca gtgactgtcc cctccagcac ctggcccagc 600
 gagaccgtca cctgcaacgt tgcccacccg gccagcagca ccaaggtgga caagaaaatt 660
 gtgcccaggg attgtggttg taagccttgc atatgtacag tcccagaagt atcatctgtc 720
 ttcattctcc ccccaaagcc caaggatgtg ctcaccatta ctctgactcc taaggtcacg 780
 tgtgtttgtg tagacatcag caaggatgat cccgaggtcc agttcagctg gttttagat 840
 gatgtggagg tgcacacagc tcagacgcaa ccccgaggagg agcagttcaa cagcactttc 900
 cgctcagtca gtgaacttcc catcatgcac caggactggc tcaatggcaa ggagttcaaa 960
 tgcaggggtca acagtgcagc tttccctgcc cccatcgaga aaaccatctc caaaacaaaa 1020
 ggagaccga aggtccaca ggtgtacacc attccacctc ccaaggagca gatggccaag 1080
 gataaagtca gtctgacctg catgataaca gacttcttcc ctgaagacat tactgtggag 1140
 tggcagtgga atgggcagcc agcggagaac tacaagaaca ctcagcccat catggacaca 1200

eolf-seql.txt

gatggctctt acttcatcta cagcaagctc aatgtgcaga agagcaactg ggaggcagga 1260
aatactttca cctgctctgt gttacatgag ggcttgcaca accaccatac tgagaagagc 1320
ctctcccact ctcttggtaa atga 1344

<210> 187
<211> 466
<212> PRT
<213> Mus musculus

<400> 187

Met Gly Trp Ser Trp Thr Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly
1 5 10 15

Val Leu Ser Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Met Lys
20 25 30

Pro Gly Ala Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe
35 40 45

Thr Asp Tyr Asn Met His Trp Val Lys Gln Asn Gln Gly Lys Thr Leu
50 55 60

Glu Trp Ile Gly Glu Ile Asn Pro Asn Ser Gly Gly Ala Gly Tyr Asn
65 70 75 80

Gln Lys Phe Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Thr
85 90 95

Thr Ala Tyr Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val
100 105 110

Tyr Tyr Cys Ala Arg Leu Gly Tyr Asp Asp Ile Tyr Asp Asp Trp Tyr
115 120 125

Phe Asp Val Trp Gly Ala Gly Thr Thr Val Thr Val Ser Ser Ala Lys
130 135 140

Thr Thr Pro Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln
145 150 155 160

Thr Asn Ser Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro
165 170 175

Glu Pro Val Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val
180 185 190

His Thr Phe Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser
195 200 205

Ser Val Thr Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys
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210

215

Asn Val Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val
225 230 235 240

Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu Val
245 250 255

Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr Ile
260 265 270

Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys Asp
275 280 285

Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val His
290 295 300

Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg
305 310 315 320

Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly Lys
325 330 335

Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu
340 345 350

Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr
355 360 365

Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu
370 375 380

Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp
385 390 395 400

Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile
405 410 415

Met Asp Thr Asp Gly Ser Tyr Phe Ile Tyr Ser Lys Leu Asn Val Gln
420 425 430

Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu His
435 440 445

Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser Pro
450 455 460

Gly Lys
465

<210> 188

eolf-seql.txt

<211> 1401
<212> DNA
<213> Mus musculus

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<400> 188
atgggatgga gctggacctt tctcttcctc ctgtcaggaa ctgcaggtgt cctctctgag      60
gtccaactgc aacagtctgg acctgaacta atgaagcctg gggcttcagt gaagatgtcc      120
tgcaaggctt ctggatatac attcactgac tacaacatgc actgggtgaa gcagaaccaa      180
ggaaagaccc tagaatggat aggagaaatt aatcctaaca gtggtggtgc tggctacaac      240
cagaagttca agggcaaggc cacattgact gtagacaagt cctccaccac agcctacatg      300
gagctccgca gcctgacatc tgaggactct gcagtctatt actgtgcaag attgggctac      360
gatgatattc acgacgactg gtacttcgat gtctggggcg cagggaccac ggtcaccgtc      420
tcctcagcca aaacgacacc cccatctgtc tatccactgg cccctggatc tgctgcccac      480
actaactcca tggtgaccct gggatgcctg gtcaagggtc atttccctga gccagtgaca      540
gtgacctgga actctggatc cctgtccagc ggtgtgcaca ccttcccagc tgtcctgcag      600
tctgacctct acactctgag cagctcagtg actgtcccct ccagcacctg gccagcgag      660
accgtcacct gcaacgttgc ccacccggcc agcagcacca aggtggacaa gaaaattgtg      720
cccagggatt gtggttgtaa gccttgcata tgtacagtcc cagaagtatc atctgtcttc      780
atcttcccc caaagcccaa ggatgtgtc accattactc tgactcctaa ggtcacgtgt      840
gttggtgtag acatcagcaa ggatgatccc gaggtccagt tcagctggtt tgtagatgat      900
gtggaggtgc acacagctca gacgcaaccc cgggaggagc agttcaacag cactttccgc      960
tcagtcagtg aacttcccat catgcaccag gactgggtca atggcaagga gttcaaatgc     1020
agggtcaaca gtgcagcttt ccctgcccc atcgagaaaa ccatctccaa aaccaaaggc     1080
agaccgaagg ctccacaggt gtacaccatt ccacctccca aggagcagat ggccaaggat     1140
aaagtcagtc tgacctgcat gataacagac ttcttccttg aagacattac tgtggagtgg     1200
cagtggaatg ggcagccagc ggagaactac aagaacactc agcccatcat ggacacagat     1260
ggctcttact tcattctacag caagctcaat gtgcagaaga gcaactggga ggcaggaaat     1320
actttcacct gctctgtgtt acatgagggc ctgcacaacc accatactga gaagagcctc     1380
tccactctc ctggtaaatg a                                     1401

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<210> 189
<211> 213
<212> PRT
<213> Mus musculus

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<400> 189
Gln Ile Val Leu Ser Gln Ser Pro Ala Phe Leu Ser Val Ser Pro Gly
1           5           10          15
Asp Lys Val Thr Met Thr Cys Arg Ala Ser Ser Ser Ile Ser Tyr Ile
          20          25          30

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eolf-seql.txt

His Trp Phe Gln Gln Lys Pro Gly Ser Ser Pro Arg Ser Trp Ile Tyr
35 40 45

Ala Thr Ser Asn Leu Ala Ser Gly Val Pro Gly Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg Val Glu Ala Glu
65 70 75 80

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asp Pro Leu Thr
85 90 95

Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Arg Ala Asp Ala Ala Pro
100 105 110

Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln Leu Thr Ser Gly Gly
115 120 125

Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr Pro Lys Asp Ile Asn
130 135 140

Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln Asn Gly Val Leu Asn
145 150 155 160

Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met Ser Ser
165 170 175

Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg His Asn Ser Tyr Thr
180 185 190

Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro Ile Val Lys Ser Phe
195 200 205

Asn Arg Asn Glu Cys
210

<210> 190
<211> 642
<212> DNA
<213> Mus musculus

<400> 190
caaattgttc tctccagtc tccagcattc ctgtctgtat ctccagggga taaggtcaca 60
atgacttgca gggccagctc aagtataagt tacatacact ggtttcagca gaagccagga 120
tcctcccca gatcctggat ttatgccaca tccaacctgg cttctggagt ccctggctgc 180
ttcagtggca gtgggtctgg gacctcttac tctctcacia tcagcagagt ggaggctgag 240
gatgctgcca cttattactg ccagcagtgg agtagtgacc cactcacgtt cggtgctggg 300
accaagctgg agctgaaacg ggctgatgct gcaccaactg tatccatctt cccaccatcc 360
agtgagcagt taacatctgg aggtgcctca gtcgtgtgct tcttgaacaa cttctacccc 420

eolf-seql.txt

aaagacatca atgtcaagtg gaagattgat ggcagtgaac gacaaaatgg cgtcctgaac 480
 agttggactg atcaggacag caaagacagc acctacagca tgagcagcac cctcacgttg 540
 accaaggacg agtatgaacg acataacagc tatacctgtg aggccactca caagacatca 600
 acttcaccca ttgtcaagag cttcaacagg aatgagtgtt ag 642

<210> 191
 <211> 235
 <212> PRT
 <213> Mus musculus

<400> 191

Met Asp Phe Gln Val Gln Ile Phe Ser Phe Leu Leu Ile Ser Ala Ser
 1 5 10 15

Val Ile Met Ser Arg Gly Gln Ile Val Leu Ser Gln Ser Pro Ala Phe
 20 25 30

Leu Ser Val Ser Pro Gly Asp Lys Val Thr Met Thr Cys Arg Ala Ser
 35 40 45

Ser Ser Ile Ser Tyr Ile His Trp Phe Gln Gln Lys Pro Gly Ser Ser
 50 55 60

Pro Arg Ser Trp Ile Tyr Ala Thr Ser Asn Leu Ala Ser Gly Val Pro
 65 70 75 80

Gly Arg Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile
 85 90 95

Ser Arg Val Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp
 100 105 110

Ser Ser Asp Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
 115 120 125

Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu
 130 135 140

Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe
 145 150 155 160

Tyr Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg
 165 170 175

Gln Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser
 180 185 190

Thr Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu
 195 200 205

eolf-seql.txt

Arg His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser
210 215 220

Pro Ile Val Lys Ser Phe Asn Arg Asn Glu Cys
225 230 235

<210> 192
<211> 708
<212> DNA
<213> Mus musculus

<400> 192
atggattttc aagtgcagat tttcagcttc ctgctaataca gtgcttcagt cataatgtcc 60
agaggacaaa ttgttctctc ccagtctcca gcattcctgt ctgtatctcc aggggataag 120
gtcacaatga cttgcagggc cagctcaagt ataagttaca tacactgggt tcagcagaag 180
ccaggatcct cccccagatc ctggatttat gccacatcca acctggcttc tggagtccct 240
ggtcgcttca gtggcagtgg gtctgggacc tcttactctc tcacaatcag cagagtggag 300
gctgaggatg ctgccactta ttactgccag cagtggagta gtgaccact cacgttcggt 360
gctgggacca agctggagct gaaacgggct gatgctgcac caactgtatc catcttccca 420
ccatccagtg agcagttaac atctggaggt gcctcagtcg tgtgcttctt gaacaacttc 480
taccctaaag acatcaatgt caagtggaag attgatggca gtgaacgaca aaatggcgtc 540
ctgaacagtt ggactgatca ggacagcaaa gacagcacct acagcatgag cagcaccctc 600
acgttgacca aggacgagta tgaacgacat aacagctata cctgtgaggc cactcacaag 660
acatcaactt caccatttgt caagagcttc aacaggaatg agtgttag 708

<210> 193
<211> 445
<212> PRT
<213> Mus musculus

<400> 193
Glu Val Gln Leu Gln Gln Ser Gly Ala Asp Leu Val Gln Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Thr Ala Ser Gly Phe Asp Ile Lys Asp Tyr
20 25 30

Tyr Ile His Trp Met Lys Gln Arg Pro Asp Gln Gly Leu Glu Trp Ile
35 40 45

Gly Arg Val Asp Pro Asp Asn Gly Glu Thr Glu Phe Ala Pro Lys Phe
50 55 60

Pro Gly Lys Ala Thr Phe Thr Thr Asp Thr Ser Ser Asn Thr Ala Tyr
65 70 75 80

Leu Gln Leu Arg Gly Leu Thr Ser Glu Asp Thr Ala Ile Tyr Tyr Cys
Page 128

Gly Arg Glu Asp Tyr Asp Gly Thr Tyr Thr Trp Phe Pro Tyr Trp Gly
 100 105 110
 Gln Gly Thr Leu Val Thr Val Ser Ala Ala Lys Thr Thr Pro Pro Ser
 115 120 125
 Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr Asn Ser Met Val
 130 135 140
 Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val Thr Val
 145 150 155 160
 Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr Phe Pro Ala
 165 170 175
 Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val Thr Val Pro
 180 185 190
 Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys Asn Val Ala His Pro
 195 200 205
 Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val Pro Arg Asp Cys Gly
 210 215 220
 Cys Lys Pro Cys Ile Cys Thr Val Pro Glu Val Ser Ser Val Phe Ile
 225 230 235 240
 Phe Pro Pro Lys Pro Lys Asp Val Leu Thr Ile Thr Leu Thr Pro Lys
 245 250 255
 Val Thr Cys Val Val Val Asp Ile Ser Lys Asp Asp Pro Glu Val Gln
 260 265 270
 Phe Ser Trp Phe Val Asp Asp Val Glu Val His Thr Ala Gln Thr Gln
 275 280 285
 Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser Val Ser Glu Leu
 290 295 300
 Pro Ile Met His Gln Asp Trp Leu Asn Gly Lys Glu Phe Lys Cys Arg
 305 310 315 320
 Val Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys
 325 330 335
 Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr Ile Pro Pro Pro
 340 345 350
 Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr Cys Met Ile Thr
 Page 129

355

360

365

Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln Trp Asn Gly Gln
 370 375 380

Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met Asp Thr Asp Gly
 385 390 395 400

Ser Tyr Phe Ile Tyr Ser Lys Leu Asn Val Gln Lys Ser Asn Trp Glu
 405 410 415

Ala Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu Gly Leu His Asn
 420 425 430

His His Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys
 435 440 445

<210> 194
 <211> 1338
 <212> DNA
 <213> Mus musculus

<400> 194
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 tcctgcacag cttctggctt cgacattaag gactactata tacactggat gaaacagagg 120
 cctgaccagg gcctggagtg gattggaagg gttgatcctg acaatggtga gactgaattt 180
 gccccgaagt tcccgggcaa ggccactttt acaacagaca catcctccaa cacagcctac 240
 ctacaactca gaggcctgac atctgaggac actgccatct attactgtgg gagagaagac 300
 tacgatggta cctacacctg gtttccttat tggggccaag ggactctggt cactgtctct 360
 gcagccaaaa cgacaccccc atctgtctat ccactggccc ctggatctgc tgcccaaact 420
 aactccatgg tgaccctggg atgcctggtc aagggtattt tccctgagcc agtgacagtg 480
 acctggaact ctggatccct gtccagcggg gtgcacacct tcccagctgt cctgcagtct 540
 gacctctaca ctctgagcag ctcaagtact gtcccctcca gcacctggcc cagcgagacc 600
 gtcacctgca acgttgccca cccggccagc agcaccaagg tggacaagaa aattgtgccc 660
 agggattgtg gttgtaagcc ttgcatatgt acagtccag aagtatcatc tgtcttcatc 720
 ttccccccaa agcccaagga tgtgctcacc attactctga ctctaagggt cacgtgtgtt 780
 gtggtagaca tcagcaagga tgatcccag gtccagttca gctggtttgt agatgatgtg 840
 gaggtgcaca cagctcagac gcaaccccgg gaggagcagt tcaacagcac tttccgctca 900
 gtcagtgaac ttcccatcat gcaccaggac tggctcaatg gcaaggagtt caaatgcagg 960
 gtcaacagtg cagctttccc tgccccatc gagaaaacca tctccaaaac caaaggcaga 1020
 ccgaaggctc cacaggtgta caccattcca cctcccaagg agcagatggc caaggataaa 1080
 gtcagtctga cctgcatgat aacagacttc ttccctgaag acattactgt ggagtggcag 1140
 tggaatgggc agccagcggg gaactacaag aacactcagc ccacatgga cacagatggc 1200

eolf-seql.txt

tcttacttca tctacagcaa gctcaatgtg cagaagagca actgggaggc aggaaatact 1260
 ttcacctgct ctgtgttaca tgagggcctg cacaaccacc atactgagaa gagcctctcc 1320
 cactctcctg gtaaataga 1338

<210> 195
 <211> 464
 <212> PRT
 <213> Mus musculus

<400> 195

Met Lys Cys Ser Trp Val Ile Phe Phe Leu Met Ala Val Val Thr Gly
 1 5 10 15

Val Asn Ser Glu Val Gln Leu Gln Gln Ser Gly Ala Asp Leu Val Gln
 20 25 30

Pro Gly Ala Ser Val Lys Val Ser Cys Thr Ala Ser Gly Phe Asp Ile
 35 40 45

Lys Asp Tyr Tyr Ile His Trp Met Lys Gln Arg Pro Asp Gln Gly Leu
 50 55 60

Glu Trp Ile Gly Arg Val Asp Pro Asp Asn Gly Glu Thr Glu Phe Ala
 65 70 75 80

Pro Lys Phe Pro Gly Lys Ala Thr Phe Thr Thr Asp Thr Ser Ser Asn
 85 90 95

Thr Ala Tyr Leu Gln Leu Arg Gly Leu Thr Ser Glu Asp Thr Ala Ile
 100 105 110

Tyr Tyr Cys Gly Arg Glu Asp Tyr Asp Gly Thr Tyr Thr Trp Phe Pro
 115 120 125

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala Ala Lys Thr Thr
 130 135 140

Pro Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr Asn
 145 150 155 160

Ser Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro
 165 170 175

Val Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr
 180 185 190

Phe Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val
 195 200 205

Thr Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys Asn Val

210

215

Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val Pro Arg
225 230 235 240

Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu Val Ser Ser
245 250 255

Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr Ile Thr Leu
260 265 270

Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys Asp Asp Pro
275 280 285

Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val His Thr Ala
290 300

Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser Val
305 310 315 320

Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly Lys Glu Phe
325 330 335

Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu Lys Thr
340 345 350

Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr Ile
355 360 365

Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr Cys
370 375 380

Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln Trp
385 390 395 400

Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met Asp
405 410 415

Thr Asp Gly Ser Tyr Phe Ile Tyr Ser Lys Leu Asn Val Gln Lys Ser
420 425 430

Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu Gly
435 440 445

Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys
450 455 460

<210> 196
<211> 1395
<212> DNA
<213> Mus musculus

eolf-seql.txt

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<400> 196
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tgcacagctt ctggcttcga cattaaggac tactatatac actggatgaa acagaggcct      180
gaccagggcc tggagtggat tggaaggggt gatcctgaca atggtgagac tgaatttgcc      240
ccgaagtcc  cgggcaaggc cacttttaca acagacacat cctccaacac agcctaccta      300
caactcagag gcctgacatc tgaggacact gccatctatt actgtgggag agaagactac      360
gatggtacct acacctgggt tccttattgg ggccaagga ctctgggtcac tgtctctgca      420
gccaaaacga caccctcatc tgtctatcca ctggcccctg gatctgctgc ccaaactaac      480
tccatggtga ccctgggatg cctgggtcaag ggctatttcc ctgagccagt gacagtgacc      540
tggaactctg gatccctgtc cagcgggtgtg cacaccttcc cagctgtcct gcagtctgac      600
ctctacactc tgagcagctc agtgactgtc ccctccagca cctggcccag cgagaccgtc      660
acctgcaacg ttgcccaccc ggccagcagc accaaggtgg acaagaaaat tgtgcccagg      720
gattgtgggt gtaagccttg catatgtaca gtcccagaag tatcatctgt cttcatcttc      780
cccccaaagc ccaaggatgt gctcaccatt actctgactc ctaagggtcac gtgtgtttgtg      840
gtagacatca gcaaggatga tcccagggtc cagttcagct ggtttgtaga tgatgtggag      900
gtgcacacag ctgagacgca accccgggag gagcagttca acagcacttt ccgctcagtc      960
agtgaacttc ccatcatgca ccaggactgg ctcaatggca aggagttcaa atgcagggtc     1020
aacagtgcag ctttccttgc ccccatcgag aaaaccatct ccaaaaccaa aggcagaccg     1080
aaggctccac aggtgtacac cattccacct cccaaggagc agatggccaa ggataaagtc     1140
agtctgacct gcatgataac agacttcttc cctgaagaca ttactgtgga gtggcagtggt     1200
aatgggcagc cagcggagaa ctacaagaac actcagccca tcatggacac agatggctct     1260
tacttcatct acagcaagct caatgtgcag aagagcaact gggaggcagg aaatactttc     1320
acctgctctg tgttacatga gggcctgcac aaccaccata ctgagaagag cctctcccac     1380
tctcctggta aatga                                           1395

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<210> 197
<211> 214
<212> PRT
<213> Mus musculus

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<400> 197
Asp Leu Gln Met Thr Gln Thr Thr Ser Ser Leu Ser Ala Ser Leu Gly
1          5          10          15

Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Gln Asp Ile Ser Asn Tyr
          20          25          30

Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Val Lys Leu Leu Ile
          35          40          45

```

eolf-seql.txt

Phe Tyr Thr Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asn Tyr Ser Leu Thr Ile Thr Asn Leu Glu Gln
65 70 75 80

Asp Asp Ala Ala Thr Tyr Phe Cys Gln Gln Gly Asp Thr Leu Pro Tyr
85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala Asp Ala Ala
100 105 110

Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln Leu Thr Ser Gly
115 120 125

Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr Pro Lys Asp Ile
130 135 140

Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln Asn Gly Val Leu
145 150 155 160

Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met Ser
165 170 175

Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg His Asn Ser Tyr
180 185 190

Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro Ile Val Lys Ser
195 200 205

Phe Asn Arg Asn Glu Cys
210

<210> 198
<211> 645
<212> DNA
<213> Mus musculus

<400> 198
gatctccaga tgacacagac tacttcctcc ctgtctgcct ctctgggaga cagagtcacc 60
atcagttgca gggcaagtca ggacattagc aattatttaa actggtatca gcagaaacca 120
gatggaactg ttaagctcct gatcttctac acatcaacat tacagtcagg agtcccatcg 180
aggttcagtg gcagtgggtc tggaacaaat tattctctca ccattaccaa cctggagcaa 240
gatgatgctg ccacttactt ttgccaacag ggtgatacgc ttccgtacac gttcggaggg 300
gggaccaagc tggaaataaa acgggctgat gctgcaccaa ctgtatccat cttccacca 360
tccagtgagc agttaacatc tggaggtgcc tcagtcgtgt gcttcttgaa caacttctac 420
cccaaagaca tcaatgtcaa gtggaagatt gatggcagtg aacgacaaaa tggcgtcctg 480
aacagttgga ctgatcagga cagcaaagac agcacctaca gcatgagcag caccctcacg 540

eolf-seql.txt

ttgaccaagg acgagtatga acgacataac agctatacct gtgaggccac tcacaagaca 600
tcaacttcac ccattgtcaa gagcttcaac aggaatgagt gtttag 645

<210> 199
<211> 234
<212> PRT
<213> Mus musculus

<400> 199

Met Met Ser Ser Ala Gln Phe Leu Gly Leu Leu Leu Leu Cys Phe Gln
1 5 10 15

Gly Ser Arg Cys Asp Leu Gln Met Thr Gln Thr Thr Ser Ser Leu Ser
20 25 30

Ala Ser Leu Gly Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Gln Asp
35 40 45

Ile Ser Asn Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Val
50 55 60

Lys Leu Leu Ile Phe Tyr Thr Ser Thr Leu Gln Ser Gly Val Pro Ser
65 70 75 80

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asn Tyr Ser Leu Thr Ile Thr
85 90 95

Asn Leu Glu Gln Asp Asp Ala Ala Thr Tyr Phe Cys Gln Gln Gly Asp
100 105 110

Thr Leu Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg
115 120 125

Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln
130 135 140

Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr
145 150 155 160

Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln
165 170 175

Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr
180 185 190

Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg
195 200 205

His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro
210 215 220

eolf-seql.txt

Ile Val Lys Ser Phe Asn Arg Asn Glu Cys
225 230

<210> 200
<211> 705
<212> DNA
<213> Mus musculus

<400> 200
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gatctccaga tgacacagac tacttcctcc ctgtctgcct ctctgggaga cagagtcacc 120
atcagttgca gggcaagtca ggacattagc aattatttaa actggtatca gcagaaacca 180
gatggaactg ttaagctcct gatcttctac acatcaacat tacagtcagg agtcccatcg 240
aggttcagtg gcagtgggtc tggaacaaat tattctctca ccattaccaa cctggagcaa 300
gatgatgctg ccacttactt ttgccaacag ggtgatacgc ttccgtacac gttcggaggg 360
gggaccaagc tggaataaaa acgggctgat gctgcaccaa ctgtatccat cttcccacca 420
tccagtgagc agttaacatc tggaggtgcc tcagtcgtgt gcttcttgaa caacttctac 480
cccaaagaca tcaatgtcaa gtggaagatt gatggcagtg aacgacaaaa tggcgtcctg 540
aacagttgga ctgatcagga cagcaaagac agcacctaca gcatgagcag caccctcacg 600
ttgaccaagg acgagtatga acgacataac agctatacct gtgaggccac tcacaagaca 660
tcaacttcac ccattgtcaa gagcttcaac aggaatgagt gtttag 705

<210> 201
<211> 447
<212> PRT
<213> Mus musculus

<400> 201
Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Met Lys Pro Gly Ala
1 5 10 15
Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30
Asn Met His Trp Met Lys Gln Asn Gln Gly Lys Ser Leu Glu Trp Ile
35 40 45
Gly Glu Ile Asn Pro Asn Ser Gly Gly Ser Gly Tyr Asn Gln Lys Phe
50 55 60
Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80
Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
85 90 95
Ala Arg Leu Gly Tyr Tyr Gly Asn Tyr Glu Asp Trp Tyr Phe Asp Val

eolf-seql.txt

100

105

110

Trp Gly Ala Gly Thr Thr Val Thr Val Ser Ser Ala Lys Thr Thr Pro
 115 120 125

Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr Asn Ser
 130 135 140

Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val
 145 150 155 160

Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr Phe
 165 170 175

Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val Thr
 180 185 190

Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys Asn Val Ala
 195 200 205

His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val Pro Arg Asp
 210 215 220

Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu Val Ser Ser Val
 225 230 235 240

Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr Ile Thr Leu Thr
 245 250 255

Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys Asp Asp Pro Glu
 260 265 270

Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val His Thr Ala Gln
 275 280 285

Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser Val Ser
 290 295 300

Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly Lys Glu Phe Lys
 305 310 315 320

Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu Lys Thr Ile
 325 330 335

Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr Ile Pro
 340 345 350

Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr Cys Met
 355 360 365

Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln Trp Asn

370

375

380

Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met Asp Thr
 385 390 395 400

Asp Gly Ser Tyr Phe Ile Tyr Ser Lys Leu Asn Val Gln Lys Ser Asn
 405 410 415

Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu Gly Leu
 420 425 430

His Asn His His Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys
 435 440 445

<210> 202
 <211> 1344
 <212> DNA
 <213> Mus musculus

<400> 202
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 tcctgcaagg cttctggata cacattcact gactacaaca tgcactggat gaagcagaac 120
 caaggaaaga gcctagagtg gataggagag attaataccta acagtgggtgg ttctggttac 180
 aaccagaagt tcaaaggcaa ggccacattg actgtagaca agtcctccag cacagcctac 240
 atggagctcc gcagcctgac atctgaggac tctgcagtct attactgtgc aagattgggc 300
 tactatggta actacgagga ctggtatttc gatgtctggg gcgcagggac cacggtcacc 360
 gtctcctctg ccaaaacgac acccccatct gtctatccac tggcccctgg atctgctgcc 420
 caaactaact ccatgggtgac cctgggatgc ctggtcaagg gctattttccc tgagccagtg 480
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 cagtctgacc tctacactct gagcagctca gtgactgtcc cctccagcac ctggcccagc 600
 gagaccgtca cctgcaacgt tgcccacccg gccagcagca ccaaggtgga caagaaaatt 660
 gtgcccaggg attgtggttg taagccttgc atatgtacag tcccagaagt atcatctgtc 720
 ttcatcttcc ccccaaagcc caaggatgtg ctcaccatta ctctgactcc taaggtcacg 780
 tgtgttgttg tagacatcag caaggatgat cccgaggtcc agttcagctg gttttagat 840
 gatgtggagg tgcacacagc tcagacgcaa cccgaggagg agcagttcaa cagcactttc 900
 cgctcagtca gtgaacttcc catcatgcac caggactggc tcaatggcaa ggagttcaaa 960
 tgcaggggtca acagtgcagc tttccctgcc cccatcgaga aaaccatctc caaaaccaaa 1020
 ggagaccga aggctccaca ggtgtacacc attccacctc ccaaggagca gatggccaag 1080
 gataaagtca gtctgacctg catgataaca gacttcttcc ctgaagacat tactgtggag 1140
 tggcagtgga atgggcagcc agcggagaac tacaagaaca ctgagcccat catggacaca 1200
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1344

<210> 203
 <211> 466
 <212> PRT
 <213> Mus musculus

<400> 203

Met Gly Trp Ser Trp Thr Phe Leu Phe Leu Leu Ser Gly Thr Ser Gly
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Val Leu Ser Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Met Lys
 20 25 30

Pro Gly Ala Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe
 35 40 45

Thr Asp Tyr Asn Met His Trp Met Lys Gln Asn Gln Gly Lys Ser Leu
 50 55 60

Glu Trp Ile Gly Glu Ile Asn Pro Asn Ser Gly Gly Ser Gly Tyr Asn
 65 70 75 80

Gln Lys Phe Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser
 85 90 95

Thr Ala Tyr Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val
 100 105 110

Tyr Tyr Cys Ala Arg Leu Gly Tyr Tyr Gly Asn Tyr Glu Asp Trp Tyr
 115 120 125

Phe Asp Val Trp Gly Ala Gly Thr Thr Val Thr Val Ser Ser Ala Lys
 130 135 140

Thr Thr Pro Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln
 145 150 155 160

Thr Asn Ser Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro
 165 170 175

Glu Pro Val Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val
 180 185 190

His Thr Phe Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser
 195 200 205

Ser Val Thr Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys
 210 215 220

Asn Val Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val
 Page 139

eolf-seql.txt

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<400> 204
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gtccagttgc aacagtctgg acctgaacta atgaagcctg gggcttcagt gaagatgtcc      120
tgcaaggctt ctggatacac attcactgac tacaacatgc actggatgaa gcagaaccaa      180
ggaaagagcc tagagtggat aggagagatt aatcctaaca gtggtgggtc tggttacaac      240
cagaagttca aaggcaaggc cacattgact gtagacaagt cctccagcac agcctacatg      300
gagctccgca gcctgacatc tgaggactct gcagtctatt actgtgcaag attgggctac      360
tatggtaact acgaggactg gtatttcgat gtctggggcg cagggaccac ggtcaccgtc      420
tcctctgcca aaacgacacc cccatctgtc tatccactgg cccctggatc tgctgcccaa      480
actaactcca tggtgaccct gggatgcctg gtcaagggct atttcctga gccagtgaca      540
gtgacctgga actctggatc cctgtccagc ggtgtgcaca ccttcccagc tgtcctgcag      600
tctgacctct acactctgag cagctcagtg actgtcccct ccagcacctg gccagcgag      660
accgtcacct gcaacgttgc ccacccggcc agcagcacca aggtggacaa gaaaattgtg      720
cccagggatt gtggttgtaa gccttgcata tgtacagtcc cagaagtatc atctgtcttc      780
atcttcccc caaagcccaa ggatgtgtc accattactc tgactcctaa ggtcacgtgt      840
gttgtggtag acatcagcaa ggatgatccc gaggtccagt tcagctgggt tgtagatgat      900
gtggagggtg acacagctca gacgcaacc cgggaggagc agttcaacag cactttccgc      960
tcagtcaagt aacttcccat catgcaccag gactggctca atggcaagga gttcaaatgc     1020
agggtaaca gtgcagcttt ccttgcccc atcgagaaaa ccatctccaa aaccaaaggc     1080
agaccgaagg ctccacaggt gtacaccatt ccacctcca aggagcagat ggccaaggat     1140
aaagtcagtc tgacctgcat gataacagac ttcttccttg aagacattac tgtggagtgg     1200
cagtggaatg ggcagccagc ggagaactac aagaacactc agcccatcat ggacacagat     1260
ggctcttact tcattctacag caagctcaat gtgcagaaga gcaactggga ggcaggaaat     1320
actttcacct gctctgtgtt acatgagggc ctgcacaacc accatactga gaagagcctc     1380
tcccactctc ctggtaaatg a                                     1401

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<210> 205
<211> 215
<212> PRT
<213> Mus musculus

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<400> 205
Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly
1           5           10          15

Glu Lys Val Thr Met Thr Cys Arg Ala Ser Ser Ser Val Thr Ser Ser
          20          25          30

Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Gly Ser Ser Pro Lys Leu Trp
          35          40          45

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eolf-seql.txt

Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Ser Val Glu
65 70 75 80

Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Tyr Asp Phe Phe Pro
85 90 95

Ser Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala Asp Ala
100 105 110

Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln Leu Thr Ser
115 120 125

Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr Pro Lys Asp
130 135 140

Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln Asn Gly Val
145 150 155 160

Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met
165 170 175

Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg His Asn Ser
180 185 190

Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro Ile Val Lys
195 200 205

Ser Phe Asn Arg Asn Glu Cys
210 215

<210> 206
<211> 645
<212> DNA
<213> Mus musculus

<400> 206
cagattgttc tcaccagtc tccagcaatc atgtctgcat ctccagggga gaaggtcacc 60
atgacctgca gggccagctc aagtgttaact tccagttact tgaactggta ccagcagaag 120
ccaggatctt cccccaaact ctggatttat agcacatcca acctggcttc aggagtccca 180
gctcgcttca gtggcagtgg gtctgggacc tcttactctc tcacaatcag cagtgtggag 240
gctgaggatg ctgccactta ttactgccag cagtatgatt ttttcccatc gacgttcggt 300
ggaggcacca agctggaaat caagcgggct gatgctgcac caactgtatc catcttccca 360
ccatccagtg agcagttaac atctggaggt gcctcagtcg tgtgcttctt gaacaacttc 420
taccctaaag acatcaatgt caagtggaag attgatggca gtgaacgaca aaatggcgtc 480
ctgaacagtt ggactgatca ggacagcaaa gacagcacct acagcatgag cagcaccctc 540

eolf-seql.txt

acgttgacca aggacgagta tgaacgacat aacagctata cctgtgaggc cactcacaag 600
 acatcaactt cacccatcgt caagagcttc aacaggaatg agtgt 645

<210> 207
 <211> 237
 <212> PRT
 <213> Mus musculus

<400> 207

Met Asp Ser Gln Val Gln Ile Phe Ser Phe Leu Leu Ile Ser Ala Leu
 1 5 10 15

Val Lys Met Ser Arg Gly Gln Ile Val Leu Thr Gln Ser Pro Ala Ile
 20 25 30

Met Ser Ala Ser Pro Gly Glu Lys Val Thr Met Thr Cys Arg Ala Ser
 35 40 45

Ser Ser Val Thr Ser Ser Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Gly
 50 55 60

Ser Ser Pro Lys Leu Trp Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly
 65 70 75 80

Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu
 85 90 95

Thr Ile Ser Ser Val Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln
 100 105 110

Gln Tyr Asp Phe Phe Pro Ser Thr Phe Gly Gly Gly Thr Lys Leu Glu
 115 120 125

Ile Lys Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser
 130 135 140

Ser Glu Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn
 145 150 155 160

Asn Phe Tyr Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser
 165 170 175

Glu Arg Gln Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys
 180 185 190

Asp Ser Thr Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu
 195 200 205

Tyr Glu Arg His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser
 210 215 220

eolf-seql.txt

Thr Ser Pro Ile Val Lys Ser Phe Asn Arg Asn Glu Cys
225 230 235

<210> 208
<211> 711
<212> DNA
<213> Mus musculus

<400> 208
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agaggacaga ttgttctcac ccagtctcca gcaatcatgt ctgcatctcc aggggagaag 120
gtcaccatga cctgcagggc cagctcaagt gtaacttcca gttacttgaa ctggtaccag 180
cagaagccag gatcttcccc caaactctgg atttatagca catccaacct ggcttcagga 240
gtcccagctc gcttcagtgg cagtgggtct gggacctctt actctctcac aatcagcagt 300
gtggaggctg aggatgctgc cacttattac tgccagcagt atgatttttt cccatcgacg 360
ttcgggtggag gcaccaagct ggaaatcaag cgggctgatg ctgcaccaac tgtatccatc 420
ttcccacat ccagtga gca gtaacatct ggaggtgcct cagtcgtgtg cttcttgaac 480
aacttctacc ccaaagacat caatgtcaag tggaagattg atggcagtga acgacaaaat 540
ggcgtcctga acagttggac tgatcaggac agcaaagaca gcacctacag catgagcagc 600
accctcacgt tgaccaagga cgagtatgaa cgacataaca gctataacctg tgaggccact 660
cacaagacat caacttcacc catcgtcaag agcttcaaca ggaatgagtg t 711

<210> 209
<211> 445
<212> PRT
<213> Mus musculus

<400> 209
Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala
1 5 10 15
Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30
Tyr Met Asn Trp Val Lys Gln Ser His Gly Glu Ser Leu Glu Trp Ile
35 40 45
Gly Asp Ile Asn Pro Tyr Asn Asp Asp Thr Thr Tyr Asn His Lys Phe
50 55 60
Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Asn Thr Ala Tyr
65 70 75 80
Met Gln Leu Asn Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
85 90 95
Ala Arg Glu Thr Ala Val Ile Thr Thr Asn Ala Met Asp Tyr Trp Gly
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eolf-seql.txt

100

105

110

Gln Gly Thr Ser Val Thr Val Ser Ser Ala Lys Thr Thr Pro Pro Ser
 115 120 125

Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr Asn Ser Met Val
 130 135 140

Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val Thr Val
 145 150 155 160

Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr Phe Pro Ala
 165 170 175

Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val Thr Val Pro
 180 185 190

Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys Asn Val Ala His Pro
 195 200 205

Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val Pro Arg Asp Cys Gly
 210 215 220

Cys Lys Pro Cys Ile Cys Thr Val Pro Glu Val Ser Ser Val Phe Ile
 225 230 235 240

Phe Pro Pro Lys Pro Lys Asp Val Leu Thr Ile Thr Leu Thr Pro Lys
 245 250 255

Val Thr Cys Val Val Val Asp Ile Ser Lys Asp Asp Pro Glu Val Gln
 260 265 270

Phe Ser Trp Phe Val Asp Asp Val Glu Val His Thr Ala Gln Thr Gln
 275 280 285

Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser Val Ser Glu Leu
 290 295 300

Pro Ile Met His Gln Asp Trp Leu Asn Gly Lys Glu Phe Lys Cys Arg
 305 310 315 320

Val Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys
 325 330 335

Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr Ile Pro Pro Pro
 340 345 350

Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr Cys Met Ile Thr
 355 360 365

Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln Trp Asn Gly Gln
 Page 145

370

375

380

Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met Asp Thr Asp Gly
 385 390 395 400

Ser Tyr Phe Ile Tyr Ser Lys Leu Asn Val Gln Lys Ser Asn Trp Glu
 405 410 415

Ala Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu Gly Leu His Asn
 420 425 430

His His Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys
 435 440 445

<210> 210
 <211> 1335
 <212> DNA
 <213> Mus musculus

<400> 210
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 catggagaga gccttgagtg gattggagat attaatcctt acaacgatga tactacctac 180
 aaccacaagt tcaagggcaa ggccacattg actgtagaca aatcctccaa cacagcctac 240
 atgcagctca acagcctgac atctgaggac tctgcagtct attactgtgc aagagagacg 300
 gccgttatta ctacgaatgc tatggactac tggggctcaag gaacctcagt caccgtctcc 360
 tcagccaaaa cgacaccccc atctgtctat ccaactggccc ctggatctgc tgcccaaact 420
 aactccatgg tgaccctggg atgcctggtc aagggctatt tccctgagcc agtgacagtg 480
 acctggaact ctggatccct gtccagcggg gtgcacacct tcccagctgt cctgcagtct 540
 gacctctaca ctctgagcag ctcagtgact gtcccctcca gcacctggcc cagcgagacc 600
 gtcacctgca acgttgccca cccggccagc agcaccaagg tggacaagaa aattgtgccc 660
 agggattgtg gttgtaagcc ttgcatatgt acagtcccag aagtatcatc tgtcttcac 720
 ttccccccaa agcccaagga tgtgctcacc attactctga ctctaaggt cacgtgtgtt 780
 gtggtagaca tcagcaagga tgatcccgag gtccagttca gctggtttgt agatgatgtg 840
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 gtcagtgaac ttcccatcat gcaccaggac tgggtcaatg gcaaggagtt caaatgcagg 960
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 ccgaaggctc cacaggtgta caccattcca cctcccaagg agcagatggc caaggataaa 1080
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 tcttacttca tctacagcaa gctcaatgtg cagaagagca actgggaggc aggaaatact 1260
 ttcacctgct ctgtgttaca tgagggcctg cacaaccacc atactgagaa gagcctctcc 1320

cactctcctg gtaaa

1335

<210> 211
 <211> 464
 <212> PRT
 <213> Mus musculus

<400> 211

Met Gly Trp Asn Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly
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Val Tyr Ser Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys
 20 25 30

Pro Gly Ala Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe
 35 40 45

Thr Asp Tyr Tyr Met Asn Trp Val Lys Gln Ser His Gly Glu Ser Leu
 50 55 60

Glu Trp Ile Gly Asp Ile Asn Pro Tyr Asn Asp Asp Thr Thr Tyr Asn
 65 70 75 80

His Lys Phe Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Asn
 85 90 95

Thr Ala Tyr Met Gln Leu Asn Ser Leu Thr Ser Glu Asp Ser Ala Val
 100 105 110

Tyr Tyr Cys Ala Arg Glu Thr Ala Val Ile Thr Thr Asn Ala Met Asp
 115 120 125

Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser Ala Lys Thr Thr
 130 135 140

Pro Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr Asn
 145 150 155 160

Ser Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro
 165 170 175

Val Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr
 180 185 190

Phe Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val
 195 200 205

Thr Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys Asn Val
 210 215 220

Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val Pro Arg
 Page 147

225 230 235 240

Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu Val Ser Ser
245 250 255

Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr Ile Thr Leu
260 265 270

Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys Asp Asp Pro
275 280 285

Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val His Thr Ala
290 295 300

Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser Val
305 310 315 320

Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly Lys Glu Phe
325 330 335

Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu Lys Thr
340 345 350

Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr Ile
355 360 365

Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr Cys
370 375 380

Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln Trp
385 390 395 400

Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met Asp
405 410 415

Thr Asp Gly Ser Tyr Phe Ile Tyr Ser Lys Leu Asn Val Gln Lys Ser
420 425 430

Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu Gly
435 440 445

Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys
450 455 460

<210>	212
<211>	1392
<212>	DNA
<213>	Mus musculus

<400> 212
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gtccagctgc aacaatctgg acctgagctg gtgaagcctg gggcttcagt gaagatgtcc 120

eolf-seql.txt

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tgtaaggctt ctggatacac attcactgac tactacatga actgggtgaa gcagagccat      180
ggagagagcc ttgagtggat tggagatatt aatccttaca acgatgatac tacctacaac      240
cacaagttca agggcaaggc cacattgact gtagacaaat cctccaacac agcctacatg      300
cagctcaaca gcctgacatc tgaggactct gcagtctatt actgtgcaag agagacggcc      360
gttattacta cgaatgctat ggactactgg ggtcaaggaa cctcagtcac cgtctcctca      420
gccaaaacga caccctcatc tgtctatcca ctggcccctg gatctgctgc ccaaactaac      480
tccatgggtga ccctgggatg cctgggtcaag ggctatttcc ctgagccagt gacagtgacc      540
tggaactctg gatccctgtc cagcgggtgtg cacaccttcc cagctgtcct gcagtctgac      600
ctctacactc tgagcagctc agtgactgtc ccctccagca cctggcccag cgagaccgtc      660
acctgcaacg ttgccacccc ggccagcagc accaaggtgg acaagaaaat tgtgcccagg      720
gattgtgggtt gtaagccttg catatgtaca gtcccagaag tatcatctgt cttcatcttc      780
cccccaaagc ccaaggatgt gctcaccatt actctgactc ctaaggtcac gtgtgtttgtg      840
gtagacatca gcaaggatga tcccgaggtc cagttcagct ggttttaga tgatgtggag      900
gtgcacacag ctgagacgca accccgggag gagcagttca acagcacttt ccgctcagtc      960
agtgaacttc ccatcatgca ccaggactgg ctcaatggca aggagttcaa atgcagggtc     1020
aacagtgcag ctttccttgc ccccatcgag aaaaccatct ccaaaaccaa aggcagaccg     1080
aaggctccac aggtgtacac cattccacct cccaaggagc agatggccaa ggataaagtc     1140
agtctgacct gcatgataac agacttcttc cctgaagaca ttactgtgga gtggcagtg     1200
aatgggcagc cagcggagaa ctacaagaac actcagccca tcatggacac agatggctct     1260
tacttcatct acagcaagct caatgtgcag aagagcaact gggaggcagg aaatactttc     1320
acctgctctg tgttacatga gggcctgcac aaccaccata ctgagaagag cctctcccac     1380
tctcctggta aa                                                                1392

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<210> 213
 <211> 215
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Polypeptide

<220>
 <221> MISC_FEATURE
 <223> Humanized Antibody Sequence

<400> 213

Asp Ile Gln Leu Thr Gln Ser Pro Ser Phe Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Val Thr Ser Ser
 20 25 30

eolf-seql.txt

Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln
65 70 75 80

Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Asp Phe Phe Pro
85 90 95

Ser Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala
100 105 110

Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser
115 120 125

Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu
130 135 140

Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser
145 150 155 160

Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu
165 170 175

Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val
180 185 190

Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys
195 200 205

Ser Phe Asn Arg Gly Glu Cys
210 215

<210> 214
<211> 645
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Polynucleotide

<220>
<221> misc_feature
<223> Humanized Antibody Sequence

<400> 214
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atcacatgcc ggcctcatc ttcagttaca tcttcttata ttaattggta tcaacaaaaa 120
ccaggaaaag cacctaaact tcttatatac tctacatcta atctcgcatc aggagttccc 180

eolf-seql.txt

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tctcgatttt caggatctgg atcaggcaca gaatttacac ttactatata atcactccaa      240
ccagaagact tcgccactta ttactgccaa caatacgatt tttttccaag cacattcgga      300
ggaggtacaa aagtagaaat caagcgtacg gtggctgcac catctgtctt catcttcccg      360
ccatctgatg agcagttgaa atctggaact gcctctgttg tgtgcctgct gaataacttc      420
tatcccagag aggccaaagt acagtggaag gtggataacg ccctccaatc gggtaactcc      480
caggagagtg tcacagagca ggacagcaag gacagcacct acagcctcag cagcaccctg      540
acgctgagca aagcagacta cgagaaacac aaagtctacg cctgcgaagt caccatcag      600
ggcctgagct cgcccgtcac aaagagcttc aacaggggag agtgt                        645
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<210> 215
 <211> 237
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Polypeptide

<220>
 <221> MISC_FEATURE
 <223> Humanized Antibody Sequence

<400> 215

Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
 1 5 10 15

Leu Pro Gly Ala Arg Cys Asp Ile Gln Leu Thr Gln Ser Pro Ser Phe
 20 25 30

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser
 35 40 45

Ser Ser Val Thr Ser Ser Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Gly
 50 55 60

Lys Ala Pro Lys Leu Leu Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly
 65 70 75 80

Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Glu Phe Thr Leu
 85 90 95

Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln
 100 105 110

Gln Tyr Asp Phe Phe Pro Ser Thr Phe Gly Gly Gly Thr Lys Val Glu
 115 120 125

Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser
 130 135 140

eolf-seql.txt

Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn
145 150 155 160

Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala
165 170 175

Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys
180 185 190

Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp
195 200 205

Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu
210 215 220

Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
225 230 235

<210> 216
<211> 711
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Polynucleotide

<220>
<221> misc_feature
<223> Humanized Antibody Sequence

<400> 216
atggacatga gggccccgc tcagctcctg gggctcctgc tactctggct cccaggtgcc 60
agatgtgaca tccagctgac ccagagcccc agcttccttt ccgcatccgt tggtgaccga 120
gtaacaatca catgccgcgc ctcatcttca gttacatctt cttatcttaa ttggtatcaa 180
caaaaaccag gaaaagcacc taaacttctt atatactcta catctaattt cgcatcagga 240
gttccctctc gattttcagg atctggatca ggcacagaat ttacacttac tatatcatca 300
ctccaaccag aagacttcgc cacttattac tgccaacaat acgatttttt tccaagcaca 360
ttcggaggag gtacaaaagt agaaatcaag cgtacggtgg ctgcaccatc tgtcttcac 420
ttcccgccat ctgatgagca gttgaaatct ggaactgcct ctgttggtg cctgctgaat 480
aacttctatc ccagagaggc caaagtacag tggaagggtg ataacgccct ccaatcgggt 540
aactcccagg agagtgtcac agagcaggac agcaaggaca gcacctacag cctcagcagc 600
accctgacgc tgagcaaagc agactacgag aaacacaaag tctacgcctg cgaagtcacc 660
catcagggcc tgagctcgcc cgtcacaaag agcttcaaca ggggagagtg t 711

<210> 217
<211> 447
<212> PRT
<213> Artificial Sequence

eolf-seql.txt

<220>

<223> Synthetic Polypeptide

<220>

<221> MISC_FEATURE

<223> Humanized Antibody Sequence

<400> 217

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Tyr Met Asn Trp Val Arg Gln Ala Pro Gly Gln Arg Leu Glu Trp Met
35 40 45

Gly Asp Ile Asn Pro Tyr Asn Asp Asp Thr Thr Tyr Asn His Lys Phe
50 55 60

Lys Gly Arg Val Thr Ile Thr Arg Asp Thr Ser Ala Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Thr Ala Val Ile Thr Thr Asn Ala Met Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
115 120 125

Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala
130 135 140

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
145 150 155 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
165 170 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
180 185 190

Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His
195 200 205

Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys
210 215 220

Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val
Page 153

eolf-seql.txt

```

225                230                235                240
Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
                245                250                255
Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
                260                265                270
Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
                275                280                285
Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser
                290                295                300
Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
305                310                315
Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile
                325                330                335
Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
                340                345                350
Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
                355                360                365
Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
                370                375                380
Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser
385                390                395
Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
                405                410                415
Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
                420                425                430
His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
                435                440                445

```

```

<210> 218
<211> 1341
<212> DNA
<213> Artificial Sequence

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<220>
<223> Synthetic Polynucleotide

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<220>
<221> misc_feature
<223> Humanized Antibody Sequence

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eolf-seql.txt

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<400> 218
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agttgcaaag catctggata cacatttacc gactactaca tgaattgggt acgacaagcc      120
cctggacaaa gacttgaatg gatgggagac attaaccctt ataacgacga cactacatac      180
aatcataaat ttaaaggaag agttacaatt acaagagata catccgcatc aaccgcctat      240
atggaacttt ctcattgag atctgaagac actgctgttt attactgtgc aagagaaact      300
gccgttatta ctactaacgc tatggattac tgggggtcaag gaaccactgt taccgtctct      360
agtcctcca ccaagggccc atcggctctc cccctggcgc cctgctccag gagcacctcc      420
gagagcacag cggccctggg ctgcctggtc aaggactact tccccgaacc ggtgacgggtg      480
tcgtggaact caggcgctct gaccagcggc gtgcacacct tcccagctgt cctacagtcc      540
tcaggactct actccctcag cagcgtggtg accgtgccct ccagcaactt cggcacccag      600
acctacacct gcaacgtaga tcacaagccc agcaacacca aggtggacaa gacagttgag      660
cgcaaagtgt gtgtcgagtg cccaccgtgc ccagcaccac ctgtggcagg accgtcagtc      720
ttcctcttcc ccccaaaacc caaggacacc ctcatgatct cccggacccc tgaggtcacg      780
tgcgtgggtg tggacgtgag ccacgaagac cccgaggtcc agttcaactg gtacgtggac      840
ggcgtggagg tgcataatgc caagacaaag ccacgggagg agcagttcaa cagcacgttc      900
cgtgtggtca gcgtcctcac cgttgtgcac caggactggc tgaacggcaa ggagtacaag      960
tgcaaggtct ccaacaaagg cctcccagcc cccatcgaga aaaccatctc caaaacccaa      1020
gggcagcccc gagaaccaca ggtgtacacc ctgcccccat cccgggagga gatgaccaag      1080
aaccagggtca gcctgacctg cctggtcaaa ggcttctacc ccagcgacat cgccgtggag      1140
tgggagagca atgggcagcc ggagaacaac tacaagacca cacctcccat gctggactcc      1200
gacggctcct tcttctctta cagcaagctc accgtggaca agagcagggtg gcagcagggg      1260
aacgtcttct catgctccgt gatgcatgag gctctgcaca accactacac gcagaagagc      1320
ctctccctgt ctccgggtaa a      1341

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<210> 219
<211> 466
<212> PRT
<213> Artificial Sequence

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<220>
<223> Synthetic Polypeptide

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```

<220>
<221> MISC_FEATURE
<223> Humanized Antibody Sequence

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<400> 219
Met Asp Trp Thr Trp Arg Ile Leu Phe Leu Val Ala Ala Ala Thr Gly
1           5           10          15

```

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Ala His Ser Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
Page 155

```

30

290

295

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg
305 310 315 320

Val Val Ser Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys
325 330 335

Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu
340 345 350

Lys Thr Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
355 360 365

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
370 375 380

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
385 390 395 400

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met
405 410 415

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
420 425 430

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
435 440 445

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
450 455 460

Gly Lys
465

<210> 220
<211> 1398
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Polynucleotide

<220>
<221> misc_feature
<223> Humanized Antibody Sequence

<400> 220
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gtgcagctgg tgcagagcgg cgccgaggtc aagaaacctg gagcaagcgt aaaggttagt 120
tgcaaagcat ctggatacac atttaccgac tactacatga attgggtacg acaagcccct 180
ggacaaagac ttgaatggat gggagacatt aacccttata acgacgacac tacatacaat 240

eolf-seql.txt

```

cataaattta aaggaagagt tacaattaca agagatacat cgcatacaac cgcctatatg      300
gaacttttct cattgagatc tgaagacact gctgttttatt actgtgcaag agaaactgcc      360
gttattacta ctaacgctat ggattactgg ggtcaaggaa ccactgttac cgtctctagt      420
gcctccacca agggcccatc ggtcttcccc ctggcgccct gctccaggag cacctccgag      480
agcacagcgg ccctgggctg cctgggtcaag gactacttcc ccgaaccggt gacggtgtcg      540
tggaactcag gcgctctgac cagcggcgctg cacaccttcc cagctgtcct acagtcctca      600
ggactctact ccctcagcag cgtggtgacc gtgccctcca gcaacttcgg caccagacc      660
tacacctgca acgtagatca caagcccagc aacaccaagg tggacaagac agttgagcgc      720
aaatgtttgtg tcgagtgtccc accgtgtccc gcaccacctg tggcaggacc gtcagtcttc      780
ctcttcccc caaaaccaa ggacaccctc atgatctccc ggaccctga ggtcacgtgc      840
gtggtggtgg acgtgagcca cgaagacccc gaggtccagt tcaactggta cgtggacggc      900
gtggaggtgc ataatgcaa gacaaagcca cgggaggagc agttcaacag cacgttccgt      960
gtggtcagcg tcctcacgtg tgtgcaccag gactggctga acggcaagga gtacaagtgc     1020
aaggtctcca acaaaggcct cccagcccc atcgagaaaa ccatctcaa aaccaaaggg     1080
cagccccgag aaccacaggt gtacaccctg ccccatccc gggaggagat gaccaagaac     1140
caggtcagcc tgacctgcct ggtcaaaggc ttctaccca gcgacatcgc cgtggagtgg     1200
gagagcaatg ggcagccgga gaacaactac aagaccacac ctcccatgct ggactccgac     1260
ggctccttct tcctctacag caagctcacc gtggacaaga gcaggtggca gcaggggaac     1320
gtcttctcat gctccgtgat gcatgaggct ctgcacaacc actacacgca gaagagcctc     1380
tccctgtctc cgggtaaa                                     1398

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<210> 221
 <211> 215
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Polypeptide

<220>
 <221> MISC_FEATURE
 <223> Humanized Antibody Sequence

<400> 221

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Ser Val Ser Ser Thr Ile Ser Ser Asn
 20 25 30

His Leu His Trp Phe Gln Gln Lys Pro Gly Lys Ala Pro Lys Ser Leu
 35 40 45

eolf-seql.txt

Ile Tyr Gly Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln
65 70 75 80

Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Tyr Pro
85 90 95

Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala
100 105 110

Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser
115 120 125

Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu
130 135 140

Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser
145 150 155 160

Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu
165 170 175

Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val
180 185 190

Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys
195 200 205

Ser Phe Asn Arg Gly Glu Cys
210 215

<210> 222
<211> 645
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Polynucleotide

<220>
<221> misc_feature
<223> Humanized Antibody Sequence

<400> 222
gacatccaga tgaccagtc tccatcctcc ctctcagcat ccgtaggcga tagagttaca 60
ataacatgca gcgtatcatc aactatatca tcaaatacatc ttcatgggtt ccaacagaaa 120
cccggcaaag cacctaaatc acttatatac ggcacatcaa atctcgcatc aggcgttcct 180
tcaagatttt caggctctgg ctcaggcacc gactttactc ttacaatatc ctccctccaa 240
cccgaagact tcgcaaccta ttactgtcaa caatggctcct catatccact cacatttggc 300

eolf-seql.txt

```

ggcggcacia aagtagaaat taaacgtacg gtggctgcac catctgtctt catcttcccg      360
ccatctgatg agcagttgaa atctggaact gcctctgttg tgtgcctgct gaataacttc      420
tatcccagag aggccaaagt acagtggaag gtggataacg ccctccaatc gggtaactcc      480
caggagagtg tcacagagca ggacagcaag gacagcacct acagcctcag cagcaccctg      540
acgctgagca aagcagacta cgagaaacac aaagtctacg cctgcgaagt caccatcag      600
ggcctgagct cgcccgtcac aaagagcttc aacaggggag agtgt      645

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<210> 223
<211> 237
<212> PRT
<213> Artificial Sequence

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<220>
<223> Synthetic Polypeptide

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<220>
<221> MISC_FEATURE
<223> Humanized Antibody Sequence

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<400> 223

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Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1          5          10          15

```

```

Leu Arg Gly Ala Arg Cys Asp Ile Gln Met Thr Gln Ser Pro Ser Ser
          20          25          30

```

```

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Ser Val Ser
          35          40          45

```

```

Ser Thr Ile Ser Ser Asn His Leu His Trp Phe Gln Gln Lys Pro Gly
          50          55          60

```

```

Lys Ala Pro Lys Ser Leu Ile Tyr Gly Thr Ser Asn Leu Ala Ser Gly
65          70          75          80

```

```

Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
          85          90          95

```

```

Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln
          100          105          110

```

```

Gln Trp Ser Ser Tyr Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu
          115          120          125

```

```

Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser
          130          135          140

```

```

Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn
145          150          155          160

```


eolf-seql.txt

Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala
165 170 175

Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys
180 185 190

Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp
195 200 205

Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu
210 215 220

Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
225 230 235

<210> 224
<211> 711
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Polynucleotide

<220>
<221> misc_feature
<223> Humanized Antibody Sequence

<400> 224
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agatgtgaca tccagatgac ccagtcctcca tcctccctct cagcatccgt aggcataga 120
gttacaataa catgcagcgt atcatcaact atatcatcaa atcatcttca ttggttccaa 180
cagaaacccg gcaaagcacc taaatcactt atatacggca catcaaattc cgcatacaggc 240
gttccttcaa gattttcagg ctctgggtca ggcaccgact ttactcttac aatatacctcc 300
ctccaacccg aagacttcgc aacctattac tgtcaacaat ggtcctcata tccactcaca 360
tttggcggcg gcacaaaagt agaaattaaa cgtacggtgg ctgcaccatc tgtcttcac 420
ttcccgccat ctgatgagca gttgaaatct ggaactgcct ctgttggtgt cctgctgaat 480
aacttctatc ccagagaggc caaagtacag tggaaggtgg ataacgccct ccaatcgggt 540
aactcccagg agagtgtcac agagcaggac agcaaggaca gcacctacag cctcagcagc 600
accctgacgc tgagcaaagc agactacgag aaacacaaag tctacgcctg cgaagtcacc 660
catcagggcc tgagctcgcc cgtcacaaag agcttcaaca ggggagagtg t 711

<210> 225
<211> 451
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

eolf-seql.txt

<220>

<221> MISC_FEATURE

<223> Humanized Antibody Sequence

<400> 225

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Asp Phe Asn Ile Lys Asp Phe
20 25 30

Tyr Leu His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Arg Ile Asp Pro Glu Asn Gly Asp Thr Leu Tyr Asp Pro Lys Phe
50 55 60

Gln Asp Lys Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Ala Asp Tyr Phe His Asp Gly Thr Ser Tyr Trp Tyr Phe
100 105 110

Asp Val Trp Gly Arg Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr
115 120 125

Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser
130 135 140

Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu
145 150 155 160

Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His
165 170 175

Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser
180 185 190

Val Val Thr Val Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys
195 200 205

Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu
210 215 220

Arg Lys Cys Cys Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala
225 230 235 240

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met

eolf-seql.txt

245

250

255

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
 260 265 270

Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val
 275 280 285

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
 290 295 300

Arg Val Val Ser Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly
 305 310 315 320

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile
 325 330 335

Glu Lys Thr Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val
 340 345 350

Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser
 355 360 365

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
 370 375 380

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
 385 390 395 400

Met Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
 405 410 415

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
 420 425 430

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
 435 440 445

Pro Gly Lys
 450

<210> 226
 <211> 1353
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic Polynucleotide

<400> 226
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 tcctgcaagg cttctgactt caacattaa gacttctatc tacactgggt gcgacaggcc 120

eolf-seql.txt

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cctggacaag ggcttgagtg gattggaagg attgatcctg agaatggtga tactttatat 180
gacccgaagt tccaggacaa ggtcaccatg accacagaca cgtccaccag cacagcctac 240
atggagctga ggagcctgag atctgacgac acggccgtgt attactgtgc gagagaggcg 300
gattatttcc acgatggtac ctctactggt tacttcgatg tctggggccg tggcaccctg 360
gtcaccgtct ctagtgcctc caccaagggc ccatcgggtct tccccctggc gccctgctcc 420
aggagcacct ccgagagcac agcggccctg ggctgcctgg tcaaggacta cttccccgaa 480
ccggtgacgg tgtcgtggaa ctgaggcgct ctgaccagcg gcgtgcacac cttcccagct 540
gtcctacagt cctcaggact ctactccctc agcagcgtgg tgaccgtgcc ctccagcaac 600
ttcggcacc agacctacac ctgcaacgta gatcacaaag ccagcaaacac caaggtggac 660
aagacagttg agcgcaaagt ttgtgtcgag tgcccaccgt gccagcacc acctgtggca 720
ggaccgtcag tcttctctct cccccaaaa cccaaggaca ccctcatgat ctcccgacc 780
cctgaggta cgtgcgtggt ggtggacgtg agccacgaag accccgaggt ccagttcaac 840
tggtacgtgg acggcgtgga ggtgcataat gccaagacaa agccacggga ggagcagttc 900
aacagcacgt tccgtgtggt cagcgtcctc accgttgtgc accaggactg gctgaacggc 960
aaggagtaca agtgcaaggt ctccaacaaa ggcctcccag ccccatcga gaaaaccatc 1020
tccaaaacca aagggcagcc ccgagaacca caggtgtaca ccctgcccc atcccgggag 1080
gagatgacca agaaccaggt cagcctgacc tgcttgggtca aaggcttcta cccagcgac 1140
atcgccgtgg agtgggagag caatgggcag ccggagaaca actacaagac cacacctccc 1200
atgctggact ccgacggctc cttcttctc tacagcaagc tcaccgtgga caagagcagg 1260
tggcagcagg ggaacgtctt ctcatgctcc gtgatgcatg aggtcttgca caaccactac 1320
acgcagaaga gcctctccct gtctccgggt aaa 1353

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<210> 227
 <211> 470
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Polypeptide

<220>
 <221> MISC_FEATURE
 <223> Humanized Antibody Sequence

<400> 227

Met Asp Trp Thr Trp Arg Ile Leu Phe Leu Val Ala Ala Ala Thr Gly
 1 5 10 15

Ala His Ser Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
 20 25 30

Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Asp Phe Asn Ile
 35 40 45

eolf-seql.txt

Lys Asp Phe Tyr Leu His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu
 50 55 60
 Glu Trp Ile Gly Arg Ile Asp Pro Glu Asn Gly Asp Thr Leu Tyr Asp
 65 70 75 80
 Pro Lys Phe Gln Asp Lys Val Thr Met Thr Thr Asp Thr Ser Thr Ser
 85 90 95
 Thr Ala Tyr Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val
 100 105 110
 Tyr Tyr Cys Ala Arg Glu Ala Asp Tyr Phe His Asp Gly Thr Ser Tyr
 115 120 125
 Trp Tyr Phe Asp Val Trp Gly Arg Gly Thr Leu Val Thr Val Ser Ser
 130 135 140
 Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg
 145 150 155 160
 Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
 165 170 175
 Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
 180 185 190
 Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
 195 200 205
 Leu Ser Ser Val Val Thr Val Pro Ser Ser Asn Phe Gly Thr Gln Thr
 210 215 220
 Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys
 225 230 235 240
 Thr Val Glu Arg Lys Cys Cys Val Glu Cys Pro Pro Cys Pro Ala Pro
 245 250 255
 Pro Val Ala Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
 260 265 270
 Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
 275 280 285
 Val Ser His Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly
 290 295 300
 Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn
 305 310 315 320

eolf-seql.txt

Ser Thr Phe Arg Val Val Ser Val Leu Thr Val Val His Gln Asp Trp
325 330 335

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro
340 345 350

Ala Pro Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu
355 360 365

Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn
370 375 380

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
385 390 395 400

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
405 410 415

Thr Pro Pro Met Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
420 425 430

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
435 440 445

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
450 455 460

Ser Leu Ser Pro Gly Lys
465 470

<210> 228
<211> 1410
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Polynucleotide

<220>
<221> misc_feature
<223> Humanized Antibody Sequence

<400> 228
atggactgga cctggaggat cctcttcttg gtggcagcag ccacaggagc ccactccgag 60
gtgcagctgg tgcagtctgg ggctgaggtg aagaagcctg gggcctcagt gaaggtctcc 120
tgcaaggctt ctgacttcaa cattaaagac ttctatctac actgggtgcg acaggcccct 180
ggacaagggc ttgagtggat tggaaggatt gatcctgaga atggtgatac tttatatgac 240
ccgaagttcc aggacaaggt caccatgacc acagacacgt ccaccagcac agcctacatg 300
gagctgagga gcctgagatc tgacgacacg gccgtgtatt actgtgcgag agaggcggat 360

eolf-seql.txt

tatttccacg atggtacctc ctactggtac ttcgatgtct ggggccgtgg caccctggtc 420
accgtctcta gtgcctccac caagggccca tcggtcttcc ccctggcgcc ctgctccagg 480
agcacctccg agagcacagc ggccctgggc tgcctggtca aggactactt cccgaaccg 540
gtgacggtgt cgtggaactc aggcgctctg accagcggcg tgcacacctt cccagctgtc 600
ctacagtcct caggactcta ctccctcagc agcgtggtga ccgtgccctc cagcaacttc 660
ggcaccacga cctacacctg caacgtagat cacaagccca gcaacaccaa ggtggacaag 720
acagttgagc gcaaatgttg tgtcgagtgc ccaccgtgcc cagcaccacc tgtggcagga 780
ccgtcagtct tcctcttccc cccaaaaccc aaggacaccc tcatgatctc ccggaccctt 840
gaggtcacgt gcgtgggtgt ggacgtgagc cacgaagacc ccgaggtcca gttcaactgg 900
tacgtggacg gcgtggaggt gcataatgcc aagacaaagc cacgggagga gcagttcaac 960
agcacgttcc gtgtggtcag cgtcctcacc gttgtgcacc aggactggct gaacggcaag 1020
gagtacaagt gcaaggctct caacaaaggc ctcccagccc ccatcgagaa aaccatctcc 1080
aaaaccaaag ggcagccccg agaaccacag gtgtacaccc tgcccccatc ccgggaggag 1140
atgaccaaga accaggtcag cctgacctgc ctgggtcaaag gcttctaccc cagcgacatc 1200
gccgtggagt gggagagcaa tgggcagccg gagaacaact acaagaccac acctcccatg 1260
ctggactccg acggctcctt cttcctctac agcaagctca ccgtggacaa gagcaggtgg 1320
cagcagggga acgtcttctc atgctccgtg atgcatgagg ctctgcacaa cactacacg 1380
cagaagagcc tctccctgtc tccgggtaaa 1410

<210> 229
<211> 213
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Humanized Antibody Sequence

<400> 229

Asp Ile Gln Leu Thr Gln Ser Pro Ser Phe Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Ile Ser Tyr Ile
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr
35 40 45

Ala Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
50 55 60

eolf-seql.txt

Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asp Pro Leu Thr
85 90 95

Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro
100 105 110

Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr
115 120 125

Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys
130 135 140

Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu
145 150 155 160

Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser
165 170 175

Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala
180 185 190

Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe
195 200 205

Asn Arg Gly Glu Cys
210

<210> 230
<211> 639
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Polynucleotide

<220>
<221> misc_feature
<223> Humanized Antibody Sequence

<400> 230
gacatccagt tgaccagtc tccatccttc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgca gggccagctc aagtataagt tacatacact ggtatcagca aaaaccaggg 120
aaagccccta agctcctgat ctatgccaca tccaacctgg cttctggggg cccatcaagg 180
ttcagcggca gtggatctgg gacagaattc actctcacia tcagcagcct gcagcctgaa 240
gattttgcaa cttattactg tcagcagtgg agtagtgacc cactcacgtt cggcggaggg 300
accaaggtgg agatcaaacg tacggtggct gcaccatctg tcttcatctt cccgccatct 360
gatgagcagt tgaaatctgg aactgcctct gttgtgtgcc tgctgaataa cttctatccc 420

eolf-seql.txt

agagaggcca aagtacagtg gaaggtggat aacgccctcc aatcgggtaa ctcccaggag 480
 agtgtcacag agcaggacag caaggacagc acctacagcc tcagcagcac cctgacgctg 540
 agcaaagcag actacgagaa acacaaagtc tacgcctgcg aagtcaccca tcagggcctg 600
 agctcgccccg tcacaaagag cttcaacagg ggagagtgt 639

<210> 231
 <211> 235
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Polypeptide

<220>
 <221> MISC_FEATURE
 <223> Humanized Antibody Sequence

<400> 231

Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
 1 5 10 15

Leu Pro Gly Ala Arg Cys Asp Ile Gln Leu Thr Gln Ser Pro Ser Phe
 20 25 30

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser
 35 40 45

Ser Ser Ile Ser Tyr Ile His Trp Tyr Gln Gln Lys Pro Gly Lys Ala
 50 55 60

Pro Lys Leu Leu Ile Tyr Ala Thr Ser Asn Leu Ala Ser Gly Val Pro
 65 70 75 80

Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile
 85 90 95

Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp
 100 105 110

Ser Ser Asp Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 115 120 125

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
 130 135 140

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
 145 150 155 160

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
 165 170 175

eolf-seql.txt

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
180 185 190

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
195 200 205

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
210 215 220

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
225 230 235

<210> 232
<211> 705
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Polynucleotide

<220>
<221> misc_feature
<223> Humanized Antibody Sequence

<400> 232
atggacatga ggggtccccgc tcagctcctg gggctcctgc tgctctggct cccaggtgcc 60
agatgtgaca tccagttgac ccagtcctca tccttctgt ctgcatctgt aggagacaga 120
gtcaccatca cttgcagggc cagctcaagt ataagttaca tacactggta tcagcaaaaa 180
ccagggaaaag cccctaagct cctgatctat gccacatcca acctggcttc tgggggtccca 240
tcaaggttca gcggcagtg atctgggaca gaattcactc tcacaatcag cagcctgcag 300
cctgaagatt ttgcaactta ttactgtcag cagtggagta gtgaccact caggttcggc 360
ggagggacca aggtggagat caaacgtacg gtggctgcac catctgtctt catcttcccg 420
ccatctgatg agcagttgaa atctggaact gcctctgttg tgtgcctgct gaataacttc 480
tatcccagag aggccaaagt acagtggaag gtggataacg ccctccaatc gggtaactcc 540
caggagagtg tcacagagca ggacagcaag gacagcacct acagcctcag cagcaccctg 600
acgctgagca aagcagacta cgagaaacac aaagtctacg cctgcgaagt caccatcag 660
ggcctgagct cgcccgtcac aaagagcttc aacaggggag agtgt 705

<210> 233
<211> 447
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Humanized Antibody Sequence

eolf-seql.txt

<400> 233

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Phe Asp Ile Lys Asp Tyr
20 25 30

Tyr Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Arg Val Asp Pro Asp Asn Gly Glu Thr Glu Phe Ala Pro Lys Phe
50 55 60

Pro Gly Lys Val Thr Met Thr Thr Asp Thr Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Asp Tyr Asp Gly Thr Tyr Thr Trp Phe Pro Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
115 120 125

Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala
130 135 140

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
145 150 155 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
165 170 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
180 185 190

Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His
195 200 205

Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys
210 215 220

Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val
225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
260 265 270

eolf-seql.txt

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
275 280 285

Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser
290 295 300

Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
305 310 315 320

Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile
325 330 335

Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
340 345 350

Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser
385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
405 410 415

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
435 440 445

<210> 234
<211> 1341
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Polynucleotide

<220>
<221> misc_feature
<223> Humanized Antibody Sequence

<400> 234
gaggtgcagc tggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc 60
tcctgcaagg cttctggatt cgacattaag gactactata tacactgggt gcgacaggcc 120
cctggacaag ggcttgagtg gatcggaagg gttgatcctg acaatgggtga gactgaattt 180
gccccgaagt tcccgggcaa ggtcaccatg accacagaca cgtccatcag cacagcctac 240

eolf-seql.txt

atggagctga gcaggctgag atctgacgac acggccgtgt attactgtgc gagagaagac 300
 tacgatggta cctacacctg gtttccttat tggggccaag ggactctggt caccgtctct 360
 agtgcctcca ccaagggccc atcgggtcttc cccctggcgc cctgctccag gagcacctcc 420
 gagagcacag cggccctggg ctgcctggtc aaggactact tccccgaacc ggtgacggtg 480
 tcgtggaact caggcgctct gaccagcggc gtgcacacct tcccagctgt cctacagtcc 540
 tcaggactct actccctcag cagcgtgggt accgtgccct ccagcaactt cggcacccag 600
 acctacacct gcaacgtaga tcacaagccc agcaacacca aggtggacaa gacagttgag 660
 cgcaaagtgt gtgtcgagt cccaccgtgc ccagcaccac ctgtggcagg accgtcagtc 720
 ttctcttcc ccccaaaacc caaggacacc ctcatgatct cccggacccc tgaggtcacg 780
 tgcgtgggtg tggacgtgag ccacgaagac cccgaggtcc agttcaactg gtacgtggac 840
 ggcgtggagg tgcataatgc caagacaaag ccacgggagg agcagttcaa cagcacgttc 900
 cgtgtgggtc gcgtcctcac cgttgtgcac caggactggc tgaacggcaa ggagtacaag 960
 tgcaaggctc ccaacaaagg cctcccagcc cccatcgaga aaaccatctc caaaaccaa 1020
 gggcagcccc gagaaccaca ggtgtacacc ctgcccccat cccgggagga gatgaccaag 1080
 aaccaggtca gcctgacctg cctgggtcaaa ggcttctacc ccagcgacat cgccgtggag 1140
 tgggagagca atgggcagcc ggagaacaac tacaagacca cacctcccat gctggactcc 1200
 gacggctcct tcttctctta cagcaagctc accgtggaca agagcaggtg gcagcagggg 1260
 aacgtcttct catgctccgt gatgcatgag gctctgcaca accactacac gcagaagagc 1320
 ctctccctgt ctccgggtaa a 1341

<210> 235
 <211> 466
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Polypeptide

<220>
 <221> MISC_FEATURE
 <223> Humanized Antibody Sequence

<400> 235

Met Asp Trp Thr Trp Arg Ile Leu Phe Leu Val Ala Ala Ala Thr Gly
 1 5 10 15

Ala His Ser Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
 20 25 30

Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Phe Asp Ile
 35 40 45

Lys Asp Tyr Tyr Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu
 50 55 60

eolf-seql.txt

Glu Trp Ile Gly Arg Val Asp Pro Asp Asn Gly Glu Thr Glu Phe Ala
 65 70 75 80
 Pro Lys Phe Pro Gly Lys Val Thr Met Thr Thr Asp Thr Ser Ile Ser
 85 90 95
 Thr Ala Tyr Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val
 100 105 110
 Tyr Tyr Cys Ala Arg Glu Asp Tyr Asp Gly Thr Tyr Thr Trp Phe Pro
 115 120 125
 Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys
 130 135 140
 Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu
 145 150 155 160
 Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro
 165 170 175
 Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr
 180 185 190
 Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val
 195 200 205
 Val Thr Val Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn
 210 215 220
 Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg
 225 230 235 240
 Lys Cys Cys Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly
 245 250 255
 Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 260 265 270
 Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 275 280 285
 Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 290 295 300
 Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg
 305 310 315 320
 Val Val Ser Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys
 325 330 335

eolf-seql.txt

Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu
340 345 350

Lys Thr Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
355 360 365

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
370 375 380

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
385 390 395 400

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met
405 410 415

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
420 425 430

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
435 440 445

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
450 455 460

Gly Lys
465

<210> 236
<211> 1398
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Polynucleotide

<220>
<221> misc_feature
<223> Humanized Antibody Sequence

<400> 236
atggactgga cctggaggat cctcttcttg gtggcagcag ccacaggagc ccactccgag 60
gtgcagctgg tgcagtctgg ggctgaggtg aagaagcctg gggcctcagt gaaggtctcc 120
tgcaaggctt ctggattcga cattaaggac tactatatac actgggtgcg acaggcccct 180
ggacaagggc ttgagtggat cggaaggggt gatcctgaca atggtgagac tgaatttgcc 240
ccgaagtcc cgggcaaggt caccatgacc acagacacgt ccatcagcac agcctacatg 300
gagctgagca ggctgagatc tgacgacacg gccgtgtatt actgtgagag agaagactac 360
gatggtacct acacctgggt tccttattgg ggccaaggga ctctgggtcac cgtctctagt 420
gcctccacca agggcccatc ggtcttcccc ctggcgccct gctccaggag cacctccgag 480

eolf-seql.txt

```

agcacagcgg ccctgggctg cctgggtcaag gactacttcc ccgaaccggt gacggtgtcg      540
tggaactcag gcgctctgac cagcggcgctg cacaccttcc cagctgtcct acagtcctca      600
ggactctact ccctcagcag cgtgggtgacc gtgccctcca gcaacttcgg caccagacc      660
tacacctgca acgtagatca caagcccagc aacaccaagg tggacaagac agttgagcgc      720
aaatgtttgtg tcgagtgtccc accgtgtccca gcaccacctg tggcaggacc gtcagtcttc      780
ctcttcccc caaaacccaa ggacaccctc atgatctccc ggaccctga ggtcacgtgc      840
gtggtggtgg acgtgagcca cgaagacccc gaggtccagt tcaactggta cgtggacggc      900
gtggaggtgc ataatgcaa gacaaagcca cgggaggagc agttcaacag cacgttccgt      960
gtggtcagcg tcctaccgt tgtgcaccag gactggctga acggcaagga gtacaagtgc     1020
aaggtctcca acaaaggcct cccagcccc atcgagaaaa ccatctccaa aaccaaaggg     1080
cagccccgag aaccacaggt gtacaccctg ccccatccc gggaggagat gaccaagaac     1140
caggtcagcc tgacctgcct ggtcaaaggc ttctacccca gcgacatcgc cgtggagtgg     1200
gagagcaatg ggcagccgga gaacaactac aagaccacac ctcccatgct ggactccgac     1260
ggctccttct tcctctacag caagctcacc gtggacaaga gcaggtggca gcaggggaac     1320
gtcttctcat gtcctgtgat gcatgaggct ctgcacaacc actacacgca gaagagcctc     1380
tccctgtctc cgggtaaa                                     1398

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<210> 237
 <211> 7
 <212> PRT
 <213> Mus musculus

<400> 237

Gly Thr Ser Asn Leu Ala Ser
1 5

<210> 238
 <211> 8
 <212> PRT
 <213> Mus musculus

<400> 238

Gln Gln Trp Thr Thr Tyr Thr
1 5

<210> 239
 <211> 11
 <212> PRT
 <213> Mus musculus

<400> 239

Arg Ala Ser Gln Asp Ile Ser Ser Tyr Leu Asn
1 5 10

<210> 240
 <211> 7

<212> PRT
 <213> Mus musculus

<400> 240

Ser Thr Ser Arg Leu Asn Ser
 1 5

<210> 241
 <211> 8
 <212> PRT
 <213> Mus musculus

<400> 241

Gln Gln Asp Ile Lys His Pro Thr
 1 5

<210> 242
 <211> 11
 <212> PRT
 <213> Mus musculus

<400> 242

Lys Ala Ser Gln Asp Val Phe Thr Ala Val Ala
 1 5 10

<210> 243
 <211> 7
 <212> PRT
 <213> Mus musculus

<400> 243

Trp Ala Ser Thr Arg His Thr
 1 5

<210> 244
 <211> 9
 <212> PRT
 <213> Mus musculus

<400> 244

Gln Gln Tyr Ser Ser Tyr Pro Leu Thr
 1 5

<210> 245
 <211> 5
 <212> PRT
 <213> Mus musculus

<400> 245

Asp Tyr Asn Met His
 1 5

<210> 246
 <211> 17
 <212> PRT
 <213> Mus musculus

eolf-seql.txt

<400> 246

Glu Ile Asn Pro Asn Ser Gly Gly Ala Gly Tyr Asn Gln Lys Phe Lys
1 5 10 15

Gly

<210> 247

<211> 14

<212> PRT

<213> Mus musculus

<400> 247

Leu Gly Tyr Asp Asp Ile Tyr Asp Asp Trp Tyr Phe Asp Val
1 5 10

<210> 248

<211> 5

<212> PRT

<213> Mus musculus

<400> 248

Asp Tyr Asn Met His
1 5

<210> 249

<211> 17

<212> PRT

<213> Mus musculus

<400> 249

Glu Ile Asn Pro Asn Ser Gly Gly Ser Gly Tyr Asn Gln Lys Phe Lys
1 5 10 15

Gly

<210> 250

<211> 14

<212> PRT

<213> Mus musculus

<400> 250

Leu Val Tyr Asp Gly Ser Tyr Glu Asp Trp Tyr Phe Asp Val
1 5 10

<210> 251

<211> 5

<212> PRT

<213> Mus musculus

<400> 251

Asp Tyr Asn Met His
1 5

eolf-seql.txt

<210> 252
 <211> 17
 <212> PRT
 <213> Mus musculus

<400> 252

Glu Ile Asn Pro Asn Ser Gly Gly Ala Gly Tyr Asn Gln Gln Phe Lys
 1 5 10 15

Gly

<210> 253
 <211> 14
 <212> PRT
 <213> Mus musculus

<400> 253

Leu Gly Tyr Val Gly Asn Tyr Glu Asp Trp Tyr Phe Asp Val
 1 5 10

<210> 254
 <211> 5
 <212> PRT
 <213> Mus musculus

<400> 254

Asp Tyr Asn Met His
 1 5

<210> 255
 <211> 17
 <212> PRT
 <213> Mus musculus

<400> 255

Glu Ile Asn Pro Asn Ser Gly Gly Ala Gly Tyr Asn Gln Lys Phe Lys
 1 5 10 15

Gly

<210> 256
 <211> 14
 <212> PRT
 <213> Mus musculus

<400> 256

Leu Gly Tyr Asp Asp Ile Tyr Asp Asp Trp Tyr Phe Asp Val
 1 5 10

<210> 257
 <211> 5
 <212> PRT

<213> Mus musculus

<400> 257

Asp Tyr Asn Met His
1 5

<210> 258

<211> 17

<212> PRT

<213> Mus musculus

<400> 258

Glu Ile Asn Pro Asn Ser Gly Gly Ala Gly Tyr Asn Gln Lys Phe Lys
1 5 10 15

Gly

<210> 259

<211> 14

<212> PRT

<213> Mus musculus

<400> 259

Leu Gly Tyr Asp Asp Ile Tyr Asp Asp Trp Tyr Phe Asp Val
1 5 10

<210> 260

<211> 5

<212> PRT

<213> Mus musculus

<400> 260

Asp Tyr Asn Met His
1 5

<210> 261

<211> 17

<212> PRT

<213> Mus musculus

<400> 261

Glu Ile Asn Pro Asn Ser Gly Gly Ala Gly Tyr Asn Gln Lys Phe Lys
1 5 10 15

Gly

<210> 262

<211> 14

<212> PRT

<213> Mus musculus

<400> 262

Leu Gly Tyr Asp Asp Ile Tyr Asp Asp Trp Tyr Phe Asp Val

1

5

10

<210> 263
 <211> 5
 <212> PRT
 <213> Mus musculus

<400> 263

Asp Tyr Asn Met His
 1 5

<210> 264
 <211> 17
 <212> PRT
 <213> Mus musculus

<400> 264

Glu Ile Asn Pro Asn Ser Gly Gly Ser Gly Tyr Asn Gln Lys Phe Lys
 1 5 10 15

Gly

<210> 265
 <211> 14
 <212> PRT
 <213> Mus musculus

<400> 265

Leu Gly Tyr Tyr Gly Asn Tyr Glu Asp Trp Tyr Phe Asp Val
 1 5 10

<210> 266
 <211> 5
 <212> PRT
 <213> Mus musculus

<400> 266

Asp Tyr Tyr Ile His
 1 5

<210> 267
 <211> 17
 <212> PRT
 <213> Mus musculus

<400> 267

Arg Ile Asp Pro Asp Asn Gly Glu Ser Thr Tyr Val Pro Lys Phe Gln
 1 5 10 15

Gly

<210> 268
 <211> 13

eolf-seql.txt

<212> PRT
<213> Mus musculus

<400> 268

Glu Gly Leu Asp Tyr Gly Asp Tyr Tyr Ala Val Asp Tyr
1 5 10

<210> 269
<211> 5
<212> PRT
<213> Mus musculus

<400> 269

Asp Tyr Ile Met His
1 5

<210> 270
<211> 17
<212> PRT
<213> Mus musculus

<400> 270

Tyr Ile Asn Pro Tyr Asn Asp Asp Thr Glu Tyr Asn Glu Lys Phe Lys
1 5 10 15

Gly

<210> 271
<211> 11
<212> PRT
<213> Mus musculus

<400> 271

Ser Ile Tyr Tyr Tyr Asp Ala Pro Phe Ala Tyr
1 5 10

<210> 272
<211> 5
<212> PRT
<213> Mus musculus

<400> 272

Asp Tyr Tyr Met His
1 5

<210> 273
<211> 17
<212> PRT
<213> Mus musculus

<400> 273

Arg Ile Asp Pro Glu Asn Gly Asp Ile Ile Tyr Asp Pro Lys Phe Gln
1 5 10 15

Gly

<210> 274
 <211> 10
 <212> PRT
 <213> Mus musculus

<400> 274

Asp Ala Gly Asp Pro Ala Trp Phe Thr Tyr
 1 5 10

<210> 275
 <211> 10
 <212> PRT
 <213> Mus musculus

<400> 275

Arg Ala Ser Ser Ser Val Tyr Tyr Met His
 1 5 10

<210> 276
 <211> 7
 <212> PRT
 <213> Mus musculus

<400> 276

Ala Thr Ser Asn Leu Ala Ser
 1 5

<210> 277
 <211> 9
 <212> PRT
 <213> Mus musculus

<400> 277

Gln Gln Trp Ser Ser Asp Pro Leu Thr
 1 5

<210> 278
 <211> 12
 <212> PRT
 <213> Mus musculus

<400> 278

Ser Val Ser Ser Thr Ile Ser Ser Asn His Leu His
 1 5 10

<210> 279
 <211> 7
 <212> PRT
 <213> Mus musculus

<400> 279

Gly Thr Ser Asn Leu Ala Ser
 1 5

<210> 280
 <211> 9
 <212> PRT
 <213> Mus musculus

<400> 280

Gln Gln Trp Ser Ser Tyr Pro Leu Thr
 1 5

<210> 281
 <211> 10
 <212> PRT
 <213> Mus musculus

<400> 281

Arg Ala Ser Ser Ser Ile Ser Tyr Ile His
 1 5 10

<210> 282
 <211> 7
 <212> PRT
 <213> Mus musculus

<400> 282

Ala Thr Ser Asn Leu Ala Ser
 1 5

<210> 283
 <211> 9
 <212> PRT
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<400> 283

Gln Gln Trp Ser Ser Asp Pro Leu Thr
 1 5

<210> 284
 <211> 12
 <212> PRT
 <213> Mus musculus

<400> 284

Arg Ala Ser Ser Ser Val Thr Ser Ser Tyr Leu Asn
 1 5 10

<210> 285
 <211> 7
 <212> PRT
 <213> Mus musculus

<400> 285

Ser Thr Ser Asn Leu Ala Ser
 1 5

eolf-seql.txt

<210> 286
 <211> 9
 <212> PRT
 <213> Mus musculus

<400> 286

Gln Gln Tyr Asp Phe Phe Pro Ser Thr
 1 5

<210> 287
 <211> 5
 <212> PRT
 <213> Mus musculus

<400> 287

Asp Tyr Phe Ile His
 1 5

<210> 288
 <211> 17
 <212> PRT
 <213> Mus musculus

<400> 288

Arg Leu Asp Pro Glu Asp Gly Glu Ser Asp Tyr Ala Pro Lys Phe Gln
 1 5 10 15

Asp

<210> 289
 <211> 12
 <212> PRT
 <213> Mus musculus

<400> 289

Glu Asp Tyr Asp Gly Thr Tyr Thr Phe Phe Pro Tyr
 1 5 10

<210> 290
 <211> 5
 <212> PRT
 <213> Mus musculus

<400> 290

Asp Phe Tyr Leu His
 1 5

<210> 291
 <211> 17
 <212> PRT
 <213> Mus musculus

<400> 291

Arg Ile Asp Pro Glu Asn Gly Asp Thr Leu Tyr Asp Pro Lys Phe Gln
 1 5 10 15

Asp

<210> 292
 <211> 16
 <212> PRT
 <213> Mus musculus

<400> 292

Glu Ala Asp Tyr Phe His Asp Gly Thr Ser Tyr Trp Tyr Phe Asp Val
 1 5 10 15

<210> 293
 <211> 5
 <212> PRT
 <213> Mus musculus

<400> 293

Asp Tyr Tyr Ile His
 1 5

<210> 294
 <211> 17
 <212> PRT
 <213> Mus musculus

<400> 294

Arg Val Asp Pro Asp Asn Gly Glu Thr Glu Phe Ala Pro Lys Phe Pro
 1 5 10 15

Gly

<210> 295
 <211> 12
 <212> PRT
 <213> Mus musculus

<400> 295

Glu Asp Tyr Asp Gly Thr Tyr Thr Trp Phe Pro Tyr
 1 5 10

<210> 296
 <211> 5
 <212> PRT
 <213> Mus musculus

<400> 296

Asp Tyr Tyr Met Asn
 1 5

<210> 297
 <211> 17
 <212> PRT

eolf-seql.txt

<213> Mus musculus

<400> 297

Asp Ile Asn Pro Tyr Asn Asp Asp Thr Thr Tyr Asn His Lys Phe Lys
1 5 10 15

Gly

<210> 298

<211> 11

<212> PRT

<213> Mus musculus

<400> 298

Glu Thr Ala Val Ile Thr Thr Asn Ala Met Asp
1 5 10

<210> 299

<211> 130

<212> PRT

<213> Mus musculus

<400> 299

Met Asp Phe Gln Val Gln Ile Phe Ser Phe Met Leu Ile Ser Val Thr
1 5 10 15

Val Ile Leu Ser Ser Gly Glu Ile Val Leu Thr Gln Ser Pro Ala Leu
20 25 30

Met Ala Ala Ser Pro Gly Glu Lys Val Thr Ile Thr Cys Ser Val Ser
35 40 45

Ser Ser Ile Ser Ser Ser Asn Leu His Trp Ser Gln Gln Lys Ser Gly
50 55 60

Thr Ser Pro Lys Leu Trp Ile Tyr Gly Thr Ser Asn Leu Ala Ser Gly
65 70 75 80

Val Pro Val Arg Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu
85 90 95

Thr Ile Ser Ser Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln
100 105 110

Gln Trp Thr Thr Tyr Thr Phe Gly Ser Gly Thr Lys Leu Glu Leu
115 120 125

Lys Arg
130

<210> 300

<211> 390

eolf-seql.txt

<212> DNA
<213> Mus musculus

<400> 300
atggattttc aggtgcagat tttcagcttc atgctaataca gtgtcacagt catattgtcc 60
agtggagaaa ttgtgctcac ccagtctcca gcactcatgg ctgcatctcc aggggagaag 120
gtcaccatca cctgcagtgt cagctcgagt ataagttcca gcaacttaca ctgggtcccag 180
cagaagtcag gaacctcccc caaactctgg atttatggca catccaacct tgcttctgga 240
gtccctgttc gcttcagtgg cagtggatct gggacctctt attctctcac aatcagcagc 300
atggaggctg aagatgctgc cacttattac tgtcaacagt ggactactac gtatacgttc 360
ggatcgggga ccaagctgga gctgaaacgt 390

<210> 301
<211> 141
<212> PRT
<213> Mus musculus

<400> 301
Met Gly Trp Asn Trp Ile Ile Phe Phe Leu Met Ala Val Val Thr Gly
1 5 10 15
Val Asn Ser Glu Val Gln Leu Arg Gln Ser Gly Ala Asp Leu Val Lys
20 25 30
Pro Gly Ala Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Asn Ile
35 40 45
Lys Asp Tyr Tyr Ile His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu
50 55 60
Glu Trp Ile Gly Arg Ile Asp Pro Asp Asn Gly Glu Ser Thr Tyr Val
65 70 75 80
Pro Lys Phe Gln Gly Lys Ala Thr Ile Thr Ala Asp Thr Ser Ser Asn
85 90 95
Thr Ala Tyr Leu Gln Leu Arg Ser Leu Thr Ser Glu Asp Thr Ala Ile
100 105 110
Tyr Tyr Cys Gly Arg Glu Gly Leu Asp Tyr Gly Asp Tyr Tyr Ala Val
115 120 125
Asp Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
130 135 140

<210> 302
<211> 423
<212> DNA
<213> Mus musculus

<400> 302

eolf-seql.txt

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atgggatgga actggatcat cttcttcctg atggcagtgg ttacaggggt caattcagag      60
gtgcagttgc ggcagtctgg ggcagacctt gtgaagccag gggcctcagt caagttgtcc      120
tgcacagctt ctggcttcaa cattaaagac tactatatac actgggtgaa gcagaggcct      180
gaacagggcc tggagtggat tggaaggatt gatcctgata atggtgaaag tacatatgtc      240
ccgaagttcc agggcaaggc cactataaca gcagacacat catccaacac agcctaccta      300
caactcagaa gcctgacatc tgaggacact gccatctatt attgtgggag agaggggctc      360
gactatggtg actactatgc tgtggactac tgggggtcaag gaacctcggt cacagtctcg      420
agc                                                                    423

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<210> 303
 <211> 130
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Polypeptide

<220>
 <221> MISC_FEATURE
 <223> Humanized Antibody Sequence

<400> 303

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Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1          5          10          15

Leu Pro Gly Ala Arg Cys Asp Ile Gln Leu Thr Gln Ser Pro Ser Phe
          20          25          30

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Ser Val Ser
          35          40          45

Ser Ser Ile Ser Ser Ser Asn Leu His Trp Tyr Gln Gln Lys Pro Gly
          50          55          60

Lys Ala Pro Lys Leu Leu Ile Tyr Gly Thr Ser Asn Leu Ala Ser Gly
65          70          75          80

Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Glu Phe Thr Leu
          85          90          95

Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln
          100         105         110

Gln Trp Thr Thr Thr Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile
          115         120         125

Lys Arg
          130

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eolf-seql.txt

<210> 304
 <211> 390
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic Polynucleotide

<220>
 <221> misc_feature
 <223> Humanized Antibody Sequence

<400> 304
 atggatatgc gcgtgccggc gcagctgctg ggcctgctgc tgctgtggct gccgggcgcg 60
 cgctgcgata ttcagctgac ccagagcccg agctttctga gcgcgagcgt gggcgatcgc 120
 gtgaccatta cctgcagcgt gagcagcagc attagcagca gcaacctgca ttggtatcag 180
 cagaaaccgg gcaaagcgcc gaaactgctg atttatggca ccagcaacct ggcgagcggc 240
 gtgccgagcc gcttagcgg cagcggcagc ggcaccgaat ttaccctgac cattagcagc 300
 ctgcagccgg aagattttgc gacctattat tgccagcagt ggaccaccac ctataccttt 360
 ggccagggca ccaaactgga aattaaacgt 390

<210> 305
 <211> 141
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Polypeptide

<220>
 <221> MISC_FEATURE
 <223> Humanized Antibody Sequence

<400> 305
 Met Asp Trp Thr Trp Ser Ile Leu Phe Leu Val Ala Ala Pro Thr Gly
 1 5 10 15
 Ala His Ser Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
 20 25 30
 Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Phe Asn Ile
 35 40 45
 Lys Asp Tyr Tyr Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu
 50 55 60
 Glu Trp Met Gly Arg Ile Asp Pro Asp Asn Gly Glu Ser Thr Tyr Val
 65 70 75 80
 Pro Lys Phe Gln Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser
 85 90 95

eolf-seql.txt

Thr Ala Tyr Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val
100 105 110

Tyr Tyr Cys Ala Arg Glu Gly Leu Asp Tyr Gly Asp Tyr Tyr Ala Val
115 120 125

Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
130 135 140

<210> 306
<211> 423
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Polynucleotide

<220>
<221> misc_feature
<223> Humanized Antibody Sequence

<400> 306
atggattgga cctggagcat tctgtttctg gtggcggcgc cgaccggcgc gcatagcgaa 60
gtgcagctgg tgcagagcgg cgcggaagtg aaaaaaccgg gcgcgagcgt gaaagtgagc 120
tgcaaagcga gcggctttaa cattaaagat tattatattc attgggtgcg ccaggcgccg 180
ggccagggcc tggaatggat gggccgcatt gatccggata acggcgaaag cacctatgtg 240
ccgaaatttc agggccgcgt gaccatgacc accgatacca gcaccagcac cgcgtatatg 300
gaactgcgca gcctgcgcag cgatgatacc gcggtgtatt attgcgcgcg cgaaggcctg 360
gattatggcg attattatgc ggtggattat tggggccagg gcaccctggt gaccgtctcg 420
agc 423

<210> 307
<211> 127
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Humanized Antibody Sequence

<400> 307

Met Met Ser Ser Ala Gln Phe Leu Gly Leu Leu Leu Cys Phe Gln
1 5 10 15

Gly Thr Arg Cys Asp Ile Gln Met Thr Gln Thr Thr Ser Ser Leu Ser
20 25 30

Ala Ser Leu Gly Asp Arg Val Asn Ile Ser Cys Arg Ala Ser Gln Asp
35 40 45

eolf-seql.txt

Ile Ser Ser Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Val
50 55 60

Lys Leu Leu Ile Tyr Ser Thr Ser Arg Leu Asn Ser Gly Val Pro Ser
65 70 75 80

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser
85 90 95

Asn Leu Ala Gln Glu Asp Ile Ala Thr Tyr Phe Cys Gln Gln Asp Ile
100 105 110

Lys His Pro Thr Phe Gly Gly Gly Thr Lys Leu Glu Leu Lys Arg
115 120 125

<210> 308
<211> 381
<212> DNA
<213> Mus musculus

<400> 308
atgatgtcct ctgctcagtt ccttggtctc ctgttgctct gttttcaagg taccagatgt 60
gatatccaga tgacacagac tacatcctcc ctgtctgcct ctctgggaga cagagtcaac 120
atcagctgca gggcaagtca ggacattagc agttatttaa actggtatca gcagaaacca 180
gatggaactg ttaaactcct gatctactcc acatcaagat taaactcagg agtcccatca 240
aggttcagtg gcagtgggtc tgggacagat tattctctca ctattagcaa cctggcacia 300
gaagatattg ccacttactt ttgccaacag gatattaagc atccgacgtt cgggtggaggc 360
accaagttgg agctgaaacg t 381

<210> 309
<211> 139
<212> PRT
<213> Mus musculus

<400> 309
Met Glu Trp Ile Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly
1 5 10 15

Val His Ser Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys
20 25 30

Pro Gly Ala Ser Val Lys Met Ser Cys Lys Ala Ser Gly Phe Thr Phe
35 40 45

Thr Asp Tyr Ile Met His Trp Val Lys Gln Lys Pro Gly Gln Gly Leu
50 55 60

Glu Trp Ile Gly Tyr Ile Asn Pro Tyr Asn Asp Asp Thr Glu Tyr Asn
65 70 75 80

eolf-seql.txt

Glu Lys Phe Lys Gly Lys Ala Thr Leu Thr Ser Asp Lys Ser Ser Ser
85 90 95

Thr Ala Tyr Met Asp Leu Ser Ser Leu Thr Ser Glu Gly Ser Ala Val
100 105 110

Tyr Tyr Cys Ala Arg Ser Ile Tyr Tyr Tyr Asp Ala Pro Phe Ala Tyr
115 120 125

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
130 135

<210> 310
<211> 417
<212> DNA
<213> Mus musculus

<400> 310
atggaatgga tctggatatt tctcttcctc ctgtcaggaa ctgcaggtgt ccactctgag 60
gtccagctgc agcagtctgg acctgagctg gtaaagcctg gggcttcagt gaagatgtcc 120
tgcaaggctt ctgggttcac attcactgac tacattatgc actgggtgaa gcagaagcct 180
gggcagggcc ttgagtggat tggatatatt aatccttaca atgatgatac tgaataacaat 240
gagaagttca aaggcaaggc cacactgact tcagacaaat cctccagcac agcctacatg 300
gatctcagca gtctgacctc tgagggctct gcgggtctatt actgtgcaag atcgatttat 360
tactacgatg ccccgtttgc ttactggggc caagggactc tggtcacagt ctcgagc 417

<210> 311
<211> 127
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Humanized Antibody Sequence

<400> 311
Met Met Ser Ser Ala Gln Phe Leu Gly Leu Leu Leu Leu Cys Phe Gln
1 5 10 15

Gly Thr Arg Cys Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
20 25 30

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp
35 40 45

Ile Ser Ser Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro
50 55 60

eolf-seql.txt

Lys Leu Leu Ile Tyr Ser Thr Ser Arg Leu Asn Ser Gly Val Pro Ser
65 70 75 80

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
85 90 95

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Asp Ile
100 105 110

Lys His Pro Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
115 120 125

<210> 312
<211> 381
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Polynucleotide

<220>
<221> misc_feature
<223> Humanized Antibody Sequence

<400> 312
atgatgtcct ctgctcagtt ccttggtctc ctgttgctct gttttcaagg taccagatgt 60
gatatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggtga ccgtgtcacc 120
atcacttgcc gcgcaagtca ggatattagc agctatttaa attggtatca gcagaaacca 180
gggaaagccc ctaagctcct gatctattct acttcccgtt tgaatagtgg ggtcccatca 240
cgcttcagtg gcagtggctc tgggacagat ttcactctca ccatcagcag tctgcaacct 300
gaagattttg caacttacta ctgtcaacag gatattaaac accctacgtt cgggtcaaggc 360
accaaggtgg agatcaaacg t 381

<210> 313
<211> 139
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Humanized Antibody Sequence

<400> 313

Met Glu Trp Ile Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly
1 5 10 15

Val His Ser Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
20 25 30

eolf-seql.txt

Pro Gly Ser Ser Val Lys Val Ser Cys Lys Ala Ser Gly Phe Thr Phe
35 40 45

Thr Asp Tyr Ile Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu
50 55 60

Glu Trp Met Gly Tyr Ile Asn Pro Tyr Asn Asp Asp Thr Glu Tyr Asn
65 70 75 80

Glu Lys Phe Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser
85 90 95

Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val
100 105 110

Tyr Tyr Cys Ala Arg Ser Ile Tyr Tyr Tyr Asp Ala Pro Phe Ala Tyr
115 120 125

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
130 135

<210> 314
<211> 107
<212> PRT
<213> Mus musculus

<400> 314

Asp Ile Gln Met Thr Gln Thr Thr Ser Ser Leu Ser Ala Ser Leu Gly
1 5 10 15

Asp Arg Val Asn Ile Ser Cys Arg Ala Ser Gln Asp Ile Ser Ser Tyr
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Val Lys Leu Leu Ile
35 40 45

Tyr Ser Thr Ser Arg Leu Asn Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Asn Leu Ala Gln
65 70 75 80

Glu Asp Ile Ala Thr Tyr Phe Cys Gln Gln Asp Ile Lys His Pro Thr
85 90 95

Phe Gly Gly Gly Thr Lys Leu Glu Leu Lys Arg
100 105

<210> 315
<211> 128
<212> PRT

eofl-seql.txt

<213> Mus musculus

<400> 315

Met Lys Ser Gln Thr Gln Val Phe Val Tyr Met Leu Leu Trp Leu Ser
1 5 10 15

Gly Val Glu Gly Asp Ile Val Met Thr Gln Ser His Lys Phe Met Ser
20 25 30

Thr Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp
35 40 45

Val Phe Thr Ala Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro
50 55 60

Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg His Thr Gly Val Pro Asp
65 70 75 80

Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
85 90 95

Asn Val Gln Ser Glu Asp Leu Ala Asp Tyr Phe Cys Gln Gln Tyr Ser
100 105 110

Ser Tyr Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Arg
115 120 125

<210> 316

<211> 381

<212> DNA

<213> Mus musculus

<400> 316

atgaagtcac agaccaggt cttgtatcac atgttgctgt ggttgctctgg tgttgaagga 60
gacattgtga tgaccagtc tcacaaattc atgtccacgt cagtaggaga cagggtcacc 120
atcacctgca aggccagtc ggtgtcttt actgctgtag cctggatatca acagaaacca 180
ggacaatctc ctactact gatttactgg gcatccaccc ggcacactgg agtcctgat 240
cgcttcacag gcagtggatc tgggacagat ttactctca ccattagcaa tgtgcagtct 300
gaagacttgg cagattatct ctgtcaacaa tatagcagct atcctctcac gttcggtgct 360
gggaccaagt tggagctgaa a 381

<210> 317

<211> 138

<212> PRT

<213> Mus musculus

<400> 317

Met Gly Trp Asn Trp Ile Ile Phe Phe Leu Met Ala Val Val Thr Gly
1 5 10 15

eolf-seql.txt

Val Asn Ser Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg
20 25 30

Pro Gly Ala Leu Val Lys Leu Ser Cys Lys Ala Ser Gly Phe Asn Ile
35 40 45

Lys Asp Tyr Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu
50 55 60

Glu Trp Ile Gly Arg Ile Asp Pro Glu Asn Gly Asp Ile Ile Tyr Asp
65 70 75 80

Pro Lys Phe Gln Gly Lys Ala Ser Ile Thr Thr Asp Thr Ser Ser Asn
85 90 95

Thr Ala Tyr Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val
100 105 110

Tyr Tyr Cys Ala Tyr Asp Ala Gly Asp Pro Ala Trp Phe Thr Tyr Trp
115 120 125

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
130 135

<210> 318
<211> 411
<212> DNA
<213> Mus musculus

<400> 318
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gttcagctgc agcagtctgg ggctgagctt gtgaggccag gggccttagt caagttgtcc 120
tgcaaagctt ctggcttcaa tattaaagac tactatatgc actgggtgaa gcagaggcct 180
gaacagggcc tggagtggat tggaaggatt gatcctgaga atggtgatat tatatatgac 240
ccgaagttcc agggcaaggc cagtataaca acagacacat cctccaacac agcctacctg 300
cagctcagca gcctgacgtc tgaggacact gccgtctatt actgtgctta cgatgctggt 360
gaccccgctt ggtttactta ctggggccaa gggactctgg tcaccgtctc g 411

<210> 319
<211> 130
<212> PRT
<213> Mus musculus

<400> 319
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Asp Ile Gln Met Thr Gln Ser Pro Ser Ser
20 25 30

eolf-seql.txt

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser
35 40 45

Gln Asp Val Phe Thr Ala Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys
50 55 60

Ala Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg His Thr Gly Val
65 70 75 80

Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
85 90 95

Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
100 105 110

Tyr Ser Ser Tyr Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile
115 120 125

Lys Arg
130

<210> 320
<211> 390
<212> DNA
<213> Mus musculus

<400> 320
atggatatgc gcgtgccggc gcagctgctg ggcctgctgc tgctgtggct gcgcggcgcg 60
cgctgcgata tccagatgac ccagagcccg agcagcctga gcgcgagcgt gggcgatcgc 120
gtgaccatta cctgcaaagc gagccaggat gtgtttaccg cgggtggcgtg gtatcagcag 180
aaaccgggca aagcgccgaa actgctgatt tattgggcca gcacccgcca taccggcgtg 240
ccgagtcgct ttagcggcag cggcagcggc accgatttta ccctgaccat tagcagcctg 300
cagccggaag attttgcgac ctattattgc cagcagtata gcagctatcc gctgaccttt 360
ggcggcggca ccaaagtgga aattaaacgt 390

<210> 321
<211> 138
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Humanized Antibody Sequence

<400> 321

Met Asp Trp Thr Trp Ser Ile Leu Phe Leu Val Ala Ala Pro Thr Gly
1 5 10 15

eolf-seql.txt

Ala His Ser Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
20 25 30

Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Phe Asn Ile
35 40 45

Lys Asp Tyr Tyr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu
50 55 60

Glu Trp Ile Gly Arg Ile Asp Pro Glu Asn Gly Asp Ile Ile Tyr Asp
65 70 75 80

Pro Lys Phe Gln Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser
85 90 95

Thr Ala Tyr Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val
100 105 110

Tyr Tyr Cys Ala Tyr Asp Ala Gly Asp Pro Ala Trp Phe Thr Tyr Trp
115 120 125

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
130 135

<210> 322
<211> 414
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Polynucleotide

<220>
<221> misc_feature
<223> Humanized Antibody Sequence

<400> 322
atggattgga cctggagcat tctgtttctg gtggcggcgc cgaccggcgc gcatagcgaa 60
gtgcagctgg tgcaagcgg cgcggaagtg aaaaaaccgg gcgcgagcgt gaaagtgagc 120
tgcaaagcga gcggctttaa cattaaagat tattatatgc attgggtgcg ccaggcgccg 180
ggccagggcc tggaatggat cggccgcatt gatccggaaa acggcgatat tatttatgat 240
ccgaaatttc agggccgcgt gaccatgacc accgatacca gcaccagcac cgcgtatatg 300
gaactgcgca gcctgcgcag cgatgatacc gcggtgtatt attgcgcgta tgatgcgggc 360
gatccggcgt ggtttaccta ttggggccag ggcaccctgg tgaccgtctc gaggc 414

<210> 323
<211> 106
<212> PRT
<213> Mus musculus

<400> 323

eo1f-seql.txt

Thr Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln
1 5 10 15

Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr
20 25 30

Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln
35 40 45

Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr
50 55 60

Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg
65 70 75 80

His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro
85 90 95

Ile Val Lys Ser Phe Asn Arg Asn Glu Cys
100 105

<210> 324
<211> 320
<212> PRT
<213> Mus musculus

<400> 324

Ala Lys Thr Thr Pro Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala
1 5 10 15

Ala Gln Thr Asn Ser Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr
20 25 30

Phe Pro Glu Pro Val Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser
35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu
50 55 60

Ser Ser Ser Val Thr Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val
65 70 75 80

Thr Cys Asn Val Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys
85 90 95

Ile Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro
100 105 110

Glu Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu
115 120 125

Thr Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser
Page 200

eolf-seql.txt

130

135

140

Lys Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu
145 150 155 160

Val His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr
165 170 175

Phe Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn
180 185 190

Gly Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro
195 200 205

Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln
210 215 220

Val Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val
225 230 235 240

Ser Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val
245 250 255

Glu Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln
260 265 270

Pro Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn
275 280 285

Val Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val
290 295 300

Leu His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His
305 310 315 320

<210> 325
<211> 106
<212> PRT
<213> Homo sapiens

<400> 325

Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln
1 5 10 15

Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr
20 25 30

Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser
35 40 45

Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr
50 55 60

eolf-seql.txt

Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys
65 70 75 80

His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro
85 90 95

Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
100 105

<210> 326
<211> 327
<212> PRT
<213> Homo sapiens
<400> 326

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg
1 5 10 15

Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Lys Thr
65 70 75 80

Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro
100 105 110

Glu Phe Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys
115 120 125

Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val
130 135 140

Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp
145 150 155 160

Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe
165 170 175

Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp
180 185 190

eolf-seql.txt

Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu
195 200 205

Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg
210 215 220

Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys
225 230 235 240

Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp
245 250 255

Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys
260 265 270

Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser
275 280 285

Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser
290 295 300

Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser
305 310 315 320

Leu Ser Leu Ser Leu Gly Lys
325

<210> 327
<211> 120
<212> PRT
<213> Mus musculus

<400> 327

Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Met Ser Cys Lys Ala Ser Gly Phe Thr Phe Thr Asp Tyr
20 25 30

Ile Met His Trp Val Lys Gln Lys Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Tyr Ile Asn Pro Tyr Asn Asp Asp Thr Glu Tyr Asn Glu Lys Phe
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ser Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

Met Asp Leu Ser Ser Leu Thr Ser Glu Gly Ser Ala Val Tyr Tyr Cys
85 90 95

eolf-seql.txt

Ala Arg Ser Ile Tyr Tyr Tyr Asp Ala Pro Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 328
 <211> 120
 <212> PRT
 <213> Mus musculus

<400> 328

Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Met Ser Cys Lys Ala Ser Gly Phe Thr Phe Thr Asp Tyr
 20 25 30

Ile Met His Trp Val Lys Gln Lys Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45

Gly Tyr Ile Asn Pro Tyr Asn Asp Asp Thr Glu Tyr Asn Glu Lys Phe
 50 55 60

Lys Gly Lys Ala Thr Leu Thr Ser Asp Lys Ser Ser Ser Thr Ala Tyr
 65 70 75 80

Met Asp Leu Ser Ser Leu Thr Ser Glu Gly Ser Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ser Ile Tyr Tyr Tyr Asp Ala Pro Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 329
 <211> 120
 <212> PRT
 <213> Mus musculus

<400> 329

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Phe Thr Phe Thr Asp Tyr
 20 25 30

Ile Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Tyr Ile Asn Pro Tyr Asn Asp Asp Thr Glu Tyr Asn Glu Lys Phe
 50 55 60

eolf-seql.txt

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser Ile Tyr Tyr Tyr Asp Ala Pro Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 330
<211> 226
<212> PRT
<213> Mus musculus

<400> 330

Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Met Ser Cys Lys Ala Ser Gly Phe Thr Phe Thr Asp Tyr
20 25 30

Ile Met His Trp Val Lys Gln Lys Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Tyr Ile Asn Pro Tyr Asn Asp Asp Thr Glu Tyr Asn Glu Lys Phe
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ser Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

Met Asp Leu Ser Ser Leu Thr Ser Glu Gly Ser Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser Ile Tyr Tyr Tyr Asp Ala Pro Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser Thr Val Ala Ala Pro Ser Val Phe
115 120 125

Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val
130 135 140

Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp
145 150 155 160

Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr
165 170 175

eolf-seql.txt

Glu Gln Asp Ser₁₈₀ Lys Asp Ser Thr Tyr₁₈₅ Ser Leu Ser Ser Thr₁₉₀ Leu Thr

Leu Ser Lys₁₉₅ Ala Asp Tyr Glu Lys₂₀₀ His Lys Val Tyr Ala₂₀₅ Cys Glu Val

Thr His₂₁₀ Gln Gly Leu Ser Ser₂₁₅ Pro Val Thr Lys Ser₂₂₀ Phe Asn Arg Gly

Glu Cys
225

<210> 331
<211> 447
<212> PRT
<213> Mus musculus

<400> 331

Glu Val Gln Leu₅ Val Gln Ser Gly Ala Glu₁₀ Val Lys Lys Pro Gly₁₅ Ser

Ser Val Lys₂₀ Val Ser Cys Lys Ala Ser₂₅ Gly Phe Thr Phe₃₀ Thr Asp Tyr

Ile Met His₃₅ Trp Val Arg Gln Ala₄₀ Pro Gly Gln Gly Leu₄₅ Glu Trp Met

Gly Tyr₅₀ Ile Asn Pro Tyr Asn₅₅ Asp Asp Thr Glu Tyr₆₀ Asn Glu Lys Phe

Lys Gly Arg Val Thr Ile₇₀ Thr Ala Asp Lys₇₅ Thr Ser Thr Ala Tyr₈₀

Met Glu Leu Ser Ser₈₅ Leu Arg Ser Glu Asp₉₀ Thr Ala Val Tyr Tyr₉₅ Cys

Ala Arg Ser Ile₁₀₀ Tyr Tyr Tyr Asp Ala₁₀₅ Pro Phe Ala Tyr Trp₁₁₀ Gly Gln

Gly Thr Leu₁₁₅ Val Thr Val Ser Ser₁₂₀ Ala Ser Thr Lys Gly₁₂₅ Pro Ser Val

Phe Pro₁₃₀ Leu Ala Pro Cys Ser₁₃₅ Arg Ser Thr Ser Glu₁₄₀ Ser Thr Ala Ala

Leu Gly Cys Leu Val Lys₁₅₀ Asp Tyr Phe Pro Glu₁₅₅ Pro Val Thr Val Ser₁₆₀

Trp Asn Ser Gly Ala₁₆₅ Leu Thr Ser Gly Val₁₇₀ His Thr Phe Pro Ala₁₇₅ Val

eo1f-seq1.txt

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
180 185 190

Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His Lys
195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro
210 215 220

Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val
225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu
260 265 270

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
275 280 285

Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser
290 295 300

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
305 310 315 320

Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile
325 330 335

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
340 345 350

Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser
385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg
405 410 415

Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys
435 440 445

eolf-seql.txt

<210> 332
 <211> 107
 <212> PRT
 <213> Mus musculus

<400> 332

Asp Ile Gln Met Thr Gln Ile Thr Ser Ser Leu Ser Ala Ser Leu Gly
 1 5 10 15

Asp Arg Val Ser Ile Ser Cys Arg Ala Ser Gln Asp Ile Ser Asn Tyr
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Phe Lys Leu Leu Ile
 35 40 45

Phe Tyr Thr Ser Arg Leu Leu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Tyr Asn Leu Glu Gln
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Gly Asp Thr Leu Pro Tyr
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 333
 <211> 324
 <212> PRT
 <213> Mus musculus

<400> 333

Ala Lys Thr Thr Pro Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala
 1 5 10 15

Ala Gln Thr Asn Ser Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr
 20 25 30

Phe Pro Glu Pro Val Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser
 35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu
 50 55 60

Ser Ser Ser Val Thr Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val
 65 70 75 80

Thr Cys Asn Val Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys
 85 90 95

Ile Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro
 100 105 110

eolf-seql.txt

Glu Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu
115 120 125

Thr Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser
130 135 140

Lys Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu
145 150 155 160

Val His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr
165 170 175

Phe Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn
180 185 190

Gly Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro
195 200 205

Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln
210 215 220

Val Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val
225 230 235 240

Ser Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val
245 250 255

Glu Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln
260 265 270

Pro Ile Met Asp Thr Asp Gly Ser Tyr Phe Ile Tyr Ser Lys Leu Asn
275 280 285

Val Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val
290 295 300

Leu His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His
305 310 315 320

Ser Pro Gly Lys

<210> 334
<211> 213
<212> PRT
<213> Mus musculus

<400> 334

Asp Ile Gln Met Thr Gln Thr Thr Ser Ser Leu Ser Ala Ser Leu Gly
1 5 10 15

eolf-seql.txt

Asp Arg Val Asn Ile Ser Cys Arg Ala Ser Gln Asp Ile Ser Ser Tyr
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Val Lys Leu Leu Ile
35 40 45

Tyr Ser Thr Ser Arg Leu Asn Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Asn Leu Ala Gln
65 70 75 80

Glu Asp Ile Ala Thr Tyr Phe Cys Gln Gln Asp Ile Lys His Pro Thr
85 90 95

Phe Gly Gly Gly Thr Lys Leu Glu Leu Lys Arg Thr Asp Ala Ala Pro
100 105 110

Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln Leu Thr Ser Gly Gly
115 120 125

Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr Pro Lys Asp Ile Asn
130 135 140

Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln Asn Gly Val Leu Asn
145 150 155 160

Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met Ser Ser
165 170 175

Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg His Asn Ser Tyr Thr
180 185 190

Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro Ile Val Lys Ser Phe
195 200 205

Asn Arg Asn Glu Cys
210

<210> 335
<211> 444
<212> PRT
<213> Mus musculus

<400> 335

Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Met Ser Cys Lys Ala Ser Gly Phe Thr Phe Thr Asp Tyr
20 25 30

co1f-seq1.txt

Ile Met His Trp Val Lys Gln Lys Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Tyr Ile Asn Pro Tyr Asn Asp Asp Thr Glu Tyr Asn Glu Lys Phe
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ser Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

Met Asp Leu Ser Ser Leu Thr Ser Glu Gly Ser Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser Ile Tyr Tyr Tyr Asp Ala Pro Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Lys Thr Thr Pro Pro Ser Val
115 120 125

Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr Asn Ser Met Val Thr
130 135 140

Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val Thr Val Thr
145 150 155 160

Trp Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr Phe Pro Ala Val
165 170 175

Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val Thr Val Pro Ser
180 185 190

Ser Thr Trp Pro Ser Glu Thr Val Thr Cys Asn Val Ala His Pro Ala
195 200 205

Ser Ser Thr Lys Val Asp Lys Lys Ile Val Pro Arg Asp Cys Gly Cys
210 215 220

Lys Pro Cys Ile Cys Thr Val Pro Glu Val Ser Ser Val Phe Ile Phe
225 230 235 240

Pro Pro Lys Pro Lys Asp Val Leu Thr Ile Thr Leu Thr Pro Lys Val
245 250 255

Thr Cys Val Val Val Asp Ile Ser Lys Asp Asp Pro Glu Val Gln Phe
260 265 270

Ser Trp Phe Val Asp Asp Val Glu Val His Thr Ala Gln Thr Gln Pro
275 280 285

Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser Val Ser Glu Leu Pro
290 295 300

eofl-seql.txt

Ile Met His Gln Asp Trp Leu Asn Gly Lys Glu Phe Lys Cys Arg Val
305 310 315 320

Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Thr
325 330 335

Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr Ile Pro Pro Pro Lys
340 345 350

Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr Cys Met Ile Thr Asp
355 360 365

Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln Trp Asn Gly Gln Pro
370 375 380

Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met Asp Thr Asp Gly Ser
385 390 395 400

Tyr Phe Val Tyr Ser Lys Leu Asn Val Gln Lys Ser Asn Trp Glu Ala
405 410 415

Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu Gly Leu His Asn His
420 425 430

His Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys
435 440

<210> 336
<211> 108
<212> PRT
<213> Mus musculus

<400> 336

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Val Phe Thr Ala
20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Trp Ala Ser Thr Arg His Thr Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Ser Tyr Pro Leu
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg
Page 212

100

105

<210> 337
 <211> 324
 <212> DNA
 <213> Mus musculus

<400> 337
 gatatccaga tgaccagag cccgagcagc ctgagcgcga gcgtgggcga tcgcgtgacc 60
 attacctgca aagcgagcca ggatgtgttt accgcggtgg cgtggtatca gcagaaaccg 120
 ggcaaagcgc cgaaactgct gatttatttg gcgagcaccc gccataccgg cgtgccgagt 180
 cgcttttagcg gcagcggcag cggcaccgat tttaccctga ccattagcag cctgcagccg 240
 gaagattttg cgacctatta ttgccagcag tatagcagct atccgctgac ctttggcggc 300
 ggacacaaag tggaattaa acgt 324

<210> 338
 <211> 119
 <212> PRT
 <213> Mus musculus

<400> 338
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Phe Asn Ile Lys Asp Tyr
 20 25 30
 Tyr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45
 Gly Arg Ile Asp Pro Glu Asn Gly Asp Ile Ile Tyr Asp Pro Lys Phe
 50 55 60
 Gln Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80
 Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Tyr Asp Ala Gly Asp Pro Ala Trp Phe Thr Tyr Trp Gly Gln Gly
 100 105 110
 Thr Leu Val Thr Val Ser Ser
 115

<210> 339
 <211> 357
 <212> DNA
 <213> Mus musculus

<400> 339
 gaagtgcagc tgggtgcagag cggcgcggaa gtgaaaaaac cgggcgcgag cgtgaaagtg 60

eolf-seql.txt

agctgcaaag	cgagcggctt	taacattaaa	gattattata	tgcatctgggt	gcgccaggcg	120
ccggggccagg	gcctggaatg	gatcggccgc	attgatccgg	aaaacggcga	tattatttat	180
gatccgaaat	ttcagggccg	cgtgaccatg	accaccgata	ccagcaccag	caccgcgtat	240
atggaactgc	gcagcctgcg	cagcgatgat	accgcggtgt	attattgcgc	gtatgatgcg	300
ggcgatccgg	cgtgggtttac	ctattggggc	cagggcaccc	tggtgaccgt	ctcgagc	357

<210> 340
 <211> 1395
 <212> DNA
 <213> Mus musculus

<400> 340		
atggactgga	cctggaggat	cctcttcttg
gtgcagctgg	tgcatctctg	ggctgagggtg
tgcaaggctt	ctgggtttac	cttcaccgac
ggtaagggtc	ttgagtggat	gggtatatatc
gagaagttca	agggccgtgt	cacgattacc
gagctgagca	gcctgcgctc	tgaggacacg
tactacgatg	ccccgtttgc	ttactggggc
tccaccaagg	gcccacgtgt	cttccccctg
acagcggccc	tgggctgcct	ggtaaggac
aactcaggcg	ctctgaccag	cggcgtgcac
ctctactccc	tcagcagcgt	ggtgaccgtg
acctgcaacg	tagatcacia	gcccagcaac
tggtgtgtcg	agtcccacc	gtgcccagca
ttccccccaa	aacccaagga	caccctcatg
gtggtggacg	tgagccacga	agaccccgag
gaggtgcata	atgccaagac	aaagccacgg
gtcagcgtcc	tcaccgttgt	gcaccaggac
gtctccaaca	aaggcctccc	agccccatc
ccccgagaac	cacagggtga	caccctgccc
gtcagcctga	cctgcctggt	caaaggcttc
agcaatgggc	agccggagaa	caactacaag
tccttcttcc	tctacagcaa	gctcaccgtg
ttctcatgct	ccgtgatgca	tgaggctctg
ctgtctccgg	gtaaa	

<210> 341

eolf-seql.txt

<211> 213
 <212> PRT
 <213> Mus musculus

<400> 341

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Ile Ser Ser Tyr
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Ser Thr Ser Arg Leu Asn Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Asp Ile Lys His Pro Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro
 100 105 110

Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr
 115 120 125

Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys
 130 135 140

Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu
 145 150 155 160

Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser
 165 170 175

Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala
 180 185 190

Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe
 195 200 205

Asn Arg Gly Glu Cys
 210

<210> 342
 <211> 639
 <212> DNA
 <213> Mus musculus

<400> 342

eolf-seql.txt

gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggatga ccgtgtcacc 60
atcacttgcc gcgcaagtca ggatattagc agctatttaa attggtatca gcagaaacca 120
gggaaagccc ctaagctcct gatctattct acttcccgtt tgaatagtgg ggtcccatca 180
cgcttcagtg gcagtggctc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg caacttacta ctgtcaacag gatattaaac accctacgtt cgggtcaaggc 300
accaaggtgg agatcaaacg tacggtggct gcaccatctg tcttcatctt cccgccatct 360
gatgagcagt tgaaatctgg aactgcctct gttgtgtgcc tgctgaataa cttctatccc 420
agagaggcca aagtacagtg gaaggtggat aacgccctcc aatcgggtaa ctcccaggag 480
agtgtcacag agcaggacag caaggacagc acctacagcc tcagcagcac cctgacgctg 540
agcaaagcag actacgagaa acacaaagtc tacgcctgcg aagtcaccca tcagggcctg 600
agctcgccccg tcacaaagag cttcaacagg ggagagtgt 639

<210> 343
<211> 235
<212> PRT
<213> Mus musculus

<400> 343

Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Asp Ile Gln Met Thr Gln Ser Pro Ser Ser
20 25 30

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser
35 40 45

Gln Asp Ile Ser Ser Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys
50 55 60

Ala Pro Lys Leu Leu Ile Tyr Ser Thr Ser Arg Leu Asn Ser Gly Val
65 70 75 80

Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
85 90 95

Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
100 105 110

Asp Ile Lys His Pro Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
115 120 125

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
130 135 140

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
145 150 155 160

eolf-seql.txt

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
165 170 175

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
180 185 190

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
195 200 205

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
210 215 220

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
225 230 235

<210> 344
<211> 705
<212> DNA
<213> Mus musculus

<400> 344
atggacatga ggggtgcccgc tcagctcctg gggctcctgc tgctgtggct gagaggtgcc 60
agatgtgaca tccagatgac ccagtctcca tcctccctgt ctgcatctgt aggtgaccgt 120
gtcaccatca cttgccgcgc aagtcaggat attagcagct atttaaattg gtatcagcag 180
aaaccaggga aagcccctaa gctcctgata tattctactt cccgtttgaa tagtgggggc 240
ccatcacgct tcagtggcag tggctctggg acagatttca ctctcaccat cagcagtctg 300
caacctgaag attttgcaac ttactactgt caacaggata ttaaacaccc tacgttcggt 360
caaggcacca aggtggagat caaacgtacg gtggctgcac catctgtctt catcttcccg 420
ccatctgatg agcagttgaa atctggaact gcctctgttg tgtgcctgct gaataacttc 480
tatcccagag aggccaaagt acagtgggaag gtggataacg cctccaatc gggtaactcc 540
caggagagtg tcacagagca ggacagcaag gacagcacct acagcctcag cagcaccctg 600
acgctgagca aagcagacta cgagaaacac aaagtctacg cctgcgaagt caccatcag 660
ggcctgagct cgcccgtcac aaagagcttc aacaggggag agtgt 705

<210> 345
<211> 446
<212> PRT
<213> Mus musculus

<400> 345
Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Phe Thr Phe Thr Asp Tyr
20 25 30

co1f-seq1.txt

Ile Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Tyr Ile Asn Pro Tyr Asn Asp Asp Thr Glu Tyr Asn Glu Lys Phe
50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser Ile Tyr Tyr Tyr Asp Ala Pro Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
115 120 125

Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala
130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
180 185 190

Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His Lys
195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys Val
210 215 220

Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe
225 230 235 240

Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro
245 250 255

Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val
260 265 270

Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr
275 280 285

Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val
290 295 300

eolf-seql.txt

Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys
305 310 315 320

Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser
325 330 335

Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro
340 345 350

Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val
355 360 365

Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly
370 375 380

Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp
385 390 395 400

Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp
405 410 415

Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His
420 425 430

Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
435 440 445

<210> 346
<211> 1338
<212> DNA
<213> Mus musculus

<400> 346
gaggtgcagc tgggtgcagtc tggggctgag gtgaagaagc ctgggtcctc ggtgaaggtc 60
tcctgcaagg cttctggttt taccttcacc gactatatta tgcactgggt gcgtcaggcc 120
cctggtcaag ggcttgagt gatgggctat atcaaccctt ataatgatga caccgaatac 180
aacgagaagt tcaagggccg tgtcacgatt accgcggaca aatccacgag cacagcctac 240
atggagctga gcagcctgcg ctctgaggac acggccgtgt attactgtgc gcgttcgatt 300
tattactacg atgccccgtt tgcttactgg ggccaaggga ctctgggtcac cgtctctagt 360
gcctccacca agggcccatc ggtcttcccc ctggcgccct gctccaggag cacctccgag 420
agcacagcgg ccctgggctg cctggtcaag gactacttcc ccgaaccggt gacggtgtcg 480
tggaactcag gcgctctgac cagcggcgtg cacaccttcc cagctgtcct acagtcctca 540
ggactctact ccctcagcag cgtggtgacc gtgccctcca gcaacttcgg caccagacc 600
tacacctgca acgtagatca caagcccagc aacaccaagg tggacaagac agttgagcgc 660
aaatgttgtg tcgagtgcc accgtgcca gcaccacctg tggcaggacc gtcagtcttc 720
ctcttcccc caaaaccaa ggacaccctc atgatctccc ggaccctga ggtcacgtgc 780

eolf-seql.txt

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gtgggtgggtgg acgtgagcca cgaagacccc gaggtccagt tcaactggta cgtggacggc      840
gtggagggtgc ataatgcaa gacaaagcca cgggaggagc agttcaacag cacgttccgt      900
gtggtcagcg tcctcaccgt tgtgcaccag gactggctga acggcaagga gtacaagtgc      960
aaggtctcca acaaaggcct cccagccccc atcgagaaaa ccatctccaa aaccaaaggg     1020
cagccccgag aaccacaggt gtacaccctg ccccatccc gggaggagat gaccaagaac     1080
caggtcagcc tgacctgcct ggtcaaaggc ttctacccca gcgacatcgc cgtggagtgg     1140
gagagcaatg ggcagccgga gaacaactac aagaccacac ctcccatgct ggactccgac     1200
ggctccttct tcctctacag caagctcacc gtggacaaga gcaggtggca gcaggggaac     1260
gtcttctcat gtcctgtgat gcatgaggct ctgcacaacc actacacgca gaagagcctc     1320
tccctgtctc cgggtaaa                                     1338
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<210> 347
 <211> 465
 <212> PRT
 <213> Mus musculus

<400> 347

Met Asp Trp Thr Trp Arg Ile Leu Phe Leu Val Ala Ala Ala Thr Gly
 1 5 10 15

Ala His Ser Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
 20 25 30

Pro Gly Ser Ser Val Lys Val Ser Cys Lys Ala Ser Gly Phe Thr Phe
 35 40 45

Thr Asp Tyr Ile Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu
 50 55 60

Glu Trp Met Gly Tyr Ile Asn Pro Tyr Asn Asp Asp Thr Glu Tyr Asn
 65 70 75 80

Glu Lys Phe Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser
 85 90 95

Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val
 100 105 110

Tyr Tyr Cys Ala Arg Ser Ile Tyr Tyr Tyr Asp Ala Pro Phe Ala Tyr
 115 120 125

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 130 135 140

Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser
 145 150 155 160

eolf-seql.txt

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
165 170 175

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
180 185 190

Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
195 200 205

Thr Val Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val
210 215 220

Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys
225 230 235 240

Cys Cys Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro
245 250 255

Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser
260 265 270

Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp
275 280 285

Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn
290 295 300

Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val
305 310 315 320

Val Ser Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu
325 330 335

Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys
340 345 350

Thr Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr
355 360 365

Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr
370 375 380

Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu
385 390 395 400

Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu
405 410 415

Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys
420 425 430

eolf-seql.txt

Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu
435 440 445

Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
450 455 460

Lys
465

<210> 348
<211> 1395
<212> DNA
<213> Mus musculus

<400> 348
atggactgga cctggaggat cctcttcttg gtggcagcag ccacaggagc ccactccgag 60
gtgcagctgg tgcagtctgg ggctgaggtg aagaagcctg ggtcctcggt gaaggtctcc 120
tgcaaggctt ctggttttac cttcaccgac tatattatgc actgggtgcg tcaggcccct 180
ggtaagggc ttgagtggat gggctatata aacccttata atgatgacac cgaatacaac 240
gagaagttca agggccgtgt cacgattacc gcggacaaat ccacgagcac agcctacatg 300
gagctgagca gcctgcgctc tgaggacacg gccgtgtatt actgtgcgcg ttcgatttat 360
tactacgatg ccccgtttgc ttactggggc caagggactc tggtcaccgt ctctagtgcc 420
tccaccaagg gcccatcggt cttccccctg gcgccctgct ccaggagcac ctccgagagc 480
acagcggccc tgggctgcct ggtcaaggac tacttccccg aaccggtgac ggtgtcgtgg 540
aactcaggcg ctctgaccag cggcgtgcac accttcccag ctgtcctaca gtcctcagga 600
ctctactccc tcagcagcgt ggtgaccgtg ccctccagca acttcggcac ccagacctac 660
acctgcaacg tagatcacia gccagcaac accaaggtgg acaagacagt tgagcgcaaa 720
tgttgtgtcg agtgcccacc gtgcccagca ccacctgtgg caggaccgtc agtcttcctc 780
ttcccccaa aacccaagga caccctcatg atctcccga cccctgaggt cacgtgcgtg 840
gtggtggacg tgagccacga agaccccgag gtccagttca actggtacgt ggacggcgtg 900
gaggtgcata atgccaagac aaagccacgg gaggagcagt tcaacagcac gttccgtgtg 960
gtcagcgtcc tcaccgttgt gcaccaggac tggctgaacg gcaaggagta caagtgaag 1020
gtctccaaca aaggcctccc agccccatc gagaaaacca tctccaaaac caaagggcag 1080
ccccgagaac cacaggtgta caccctgccc ccatcccggg aggagatgac caagaaccag 1140
gtcagcctga cctgcctggt caaaggcttc taccacgagc acatcgccgt ggagtgggag 1200
agcaatgggc agccggagaa caactacaag accacacctc ccatgctgga ctccgacggc 1260
tccttcttcc tctacagcaa gtcaccgtg gacaagagca ggtggcagca ggggaacgtc 1320
ttctcatgct ccgtgatgca tgaggctctg cacaaccact acacgcagaa gagcctctcc 1380
ctgtctccgg gtaaa 1395

<210> 349

eolf-seql.txt

<211> 417
<212> DNA
<213> Mus musculus

<400> 349
atggaatgga tctggatatt tctcttcctc ctgtcaggaa ctgcaggtgt ccactctgag 60
gtgcagctgg tgcagtctgg ggctgaggtg aagaagcctg ggtcctcggt gaaggtctcc 120
tgcaaggctt ctggttttac cttcaccgac tatattatgc actgggtgcg tcaggcccct 180
ggtaagggc ttgagtggat gggctatatc aacccttata atgatgacac cgaatacaac 240
gagaagttca agggccgtgt cacgattacc gcggacaaat ccacgagcac agcctacatg 300
gagctgagca gcctgcgctc tgaggacacg gccgtgtatt actgtgcgcg ttcgatttat 360
tactacgatg ccccgtttgc ttactggggc caagggactc tggtcacagt ctcgagc 417

<210> 350
<211> 218
<212> PRT
<213> Mus musculus

<400> 350
Asp Ile Val Leu Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly
1 5 10 15
Gln Arg Ala Thr Ile Ala Cys Lys Ala Ser Gln Ser Val Asp Tyr Asp
20 25 30
Gly Thr Ser Tyr Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro
35 40 45
Lys Leu Leu Ile Tyr Ala Ala Ser Asn Leu Glu Ser Glu Ile Pro Ala
50 55 60
Arg Phe Ser Gly Thr Gly Ser Gly Thr Asp Phe Thr Leu Asn Ile His
65 70 75 80
Pro Val Glu Glu Glu Asp Ile Thr Thr Tyr Tyr Cys Gln Gln Ser Asn
85 90 95
Glu Asp Pro Phe Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg
100 105 110
Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln
115 120 125
Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr
130 135 140
Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln
145 150 155 160
Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr

165

170

175

Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg
 180 185 190

His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro
 195 200 205

Ile Val Lys Ser Phe Asn Arg Asn Glu Cys
 210 215

<210> 351
 <211> 15
 <212> PRT
 <213> Mus musculus

<400> 351

Lys Ala Ser Gln Ser Val Asp Tyr Asp Gly Thr Ser Tyr Met Asn
 1 5 10 15

<210> 352
 <211> 7
 <212> PRT
 <213> Mus musculus

<400> 352

Ala Ala Ser Asn Leu Glu Ser
 1 5

<210> 353
 <211> 9
 <212> PRT
 <213> Mus musculus

<400> 353

Gln Gln Ser Asn Glu Asp Pro Phe Thr
 1 5

<210> 354
 <211> 657
 <212> DNA
 <213> Mus musculus

<400> 354
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 atgcctgca aggccagcca aagtgttgat tatgatggta ctagttatat gaattggtac 120
 caacagaaac caggacagcc acccaaactc ctcatctatg ctgcatccaa tctagaatct 180
 gagatcccag ccaggtttag tggcactggg tctgggacag acttcaccct caacatccat 240
 cctgtggagg aggaggatat cacaacctat tactgtcagc aaagtaatga ggatccgttc 300
 acgttcggag gggggaccaa gttggaaata aaacgggctg atgctgcacc aactgtatcc 360
 atcttccac catccagtga gcagttaaca tctggagggtg cctcagtcgt gtgcttcttg 420

eolf-seql.txt

aacaacttct accccaaaga catcaatgtc aagtggaaga ttgatggcag tgaacgacaa 480
aatggcgctcc tgaacagttg gactgatcag gacagcaaag acagcaccta cagcatgagc 540
agcacctca cgttgacaa ggacgagtat gaacgacata acagctatac ctgtgaggcc 600
actcacaaga catcaacttc acccattgtc aagagcttca acaggaatga gtgttag 657

<210> 355
<211> 238
<212> PRT
<213> Mus musculus

<400> 355

Met Glu Thr Asp Thr Ile Leu Leu Trp Val Leu Leu Leu Trp Val Pro
1 5 10 15

Gly Ser Thr Gly Asp Ile Val Leu Thr Gln Ser Pro Ala Ser Leu Ala
20 25 30

Val Ser Leu Gly Gln Arg Ala Thr Ile Ala Cys Lys Ala Ser Gln Ser
35 40 45

Val Asp Tyr Asp Gly Thr Ser Tyr Met Asn Trp Tyr Gln Gln Lys Pro
50 55 60

Gly Gln Pro Pro Lys Leu Leu Ile Tyr Ala Ala Ser Asn Leu Glu Ser
65 70 75 80

Glu Ile Pro Ala Arg Phe Ser Gly Thr Gly Ser Gly Thr Asp Phe Thr
85 90 95

Leu Asn Ile His Pro Val Glu Glu Glu Asp Ile Thr Thr Tyr Tyr Cys
100 105 110

Gln Gln Ser Asn Glu Asp Pro Phe Thr Phe Gly Gly Gly Thr Lys Leu
115 120 125

Glu Ile Lys Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro
130 135 140

Ser Ser Glu Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu
145 150 155 160

Asn Asn Phe Tyr Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly
165 170 175

Ser Glu Arg Gln Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser
180 185 190

Lys Asp Ser Thr Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp
195 200 205

eolf-seql.txt

Glu Tyr Glu Arg His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr
 210 215 220

Ser Thr Ser Pro Ile Val Lys Ser Phe Asn Arg Asn Glu Cys
 225 230 235

<210> 356
 <211> 717
 <212> DNA
 <213> Mus musculus

<400> 356
 atggagacag acacaatcct gctatgggtg ctgctgctct gggttccagg ctccactggt 60
 gacattgtgt tgaccagtc tccagcttct ttggctgtgt ctctagggca gagggccacc 120
 atcgctgca aggccagcca aagtgttgat tatgatggta ctagttatat gaattggtac 180
 caacagaaac caggacagcc acccaaactc ctcatctatg ctgcatccaa tctagaatct 240
 gagatcccag ccaggtttag tggcactggg tctgggacag acttcaccct caacatccat 300
 cctgtggagg aggaggatat cacaacctat tactgtcagc aaagtaatga ggatccgttc 360
 acgttcggag gggggaccaa gttggaaata aaacgggctg atgctgcacc aactgtatcc 420
 atcttcccac catccagtga gcagttaaca tctggagggtg cctcagtcgt gtgcttcttg 480
 aacaacttct accccaaaga catcaatgtc aagtgaaga ttgatggcag tgaacgacaa 540
 aatggcgtcc tgaacagttg gactgatcag gacagcaaag acagcaccta cagcatgagc 600
 agcacctca cgttgaccaa ggacgagtat gaacgacata acagctatac ctgtgaggcc 660
 actcacaaga catcaacttc acccattgtc aagagcttca acaggaatga gtgttag 717

<210> 357
 <211> 442
 <212> PRT
 <213> Mus musculus

<400> 357

Gln Val Gln Leu Gln Gln Pro Gly Thr Glu Leu Val Arg Pro Gly Thr
 1 5 10 15

Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Ile Phe Thr Thr Tyr
 20 25 30

Trp Met Asn Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45

Gly Met Ile His Pro Ser Ala Ser Glu Ile Arg Leu Asp Gln Lys Phe
 50 55 60

Lys Asp Lys Ala Thr Leu Thr Leu Asp Lys Ser Ser Ser Thr Ala Tyr
 65 70 75 80

Met His Leu Ser Gly Pro Thr Ser Val Asp Ser Ala Val Tyr Tyr Cys
 85 90 95

eolf-seql.txt

Ala Arg Ser Gly Glu Trp Gly Ser Met Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Ser Val Thr Val Ser Ser Ala Lys Thr Thr Pro Pro Ser Val Tyr Pro
115 120 125

Leu Ala Pro Gly Ser Ala Ala Gln Thr Asn Ser Met Val Thr Leu Gly
130 135 140

Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val Thr Val Thr Trp Asn
145 150 155 160

Ser Gly Ser Leu Ser Ser Gly Val His Thr Phe Pro Ala Val Leu Gln
165 170 175

Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val Thr Val Pro Ser Ser Thr
180 185 190

Trp Pro Ser Glu Thr Val Thr Cys Asn Val Ala His Pro Ala Ser Ser
195 200 205

Thr Lys Val Asp Lys Lys Ile Val Pro Arg Asp Cys Gly Cys Lys Pro
210 215 220

Cys Ile Cys Thr Val Pro Glu Val Ser Ser Val Phe Ile Phe Pro Pro
225 230 235 240

Lys Pro Lys Asp Val Leu Thr Ile Thr Leu Thr Pro Lys Val Thr Cys
245 250 255

Val Val Val Asp Ile Ser Lys Asp Asp Pro Glu Val Gln Phe Ser Trp
260 265 270

Phe Val Asp Asp Val Glu Val His Thr Ala Gln Thr Gln Pro Arg Glu
275 280 285

Glu Gln Phe Asn Ser Thr Phe Arg Ser Val Ser Glu Leu Pro Ile Met
290 295 300

His Gln Asp Trp Leu Asn Gly Lys Glu Phe Lys Cys Arg Val Asn Ser
305 310 315 320

Ala Ala Phe Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly
325 330 335

Arg Pro Lys Ala Pro Gln Val Tyr Thr Ile Pro Pro Pro Lys Glu Gln
340 345 350

Met Ala Lys Asp Lys Val Ser Leu Thr Cys Met Ile Thr Asp Phe Phe
355 360 365

eolf-seql.txt

Pro Glu Asp Ile Thr Val Glu Trp Gln Trp Asn Gly Gln Pro Ala Glu
370 375 380

Asn Tyr Lys Asn Thr Gln Pro Ile Met Asp Thr Asp Gly Ser Tyr Phe
385 390 395 400

Ile Tyr Ser Lys Leu Asn Val Gln Lys Ser Asn Trp Glu Ala Gly Asn
405 410 415

Thr Phe Thr Cys Ser Val Leu His Glu Gly Leu His Asn His His Thr
420 425 430

Glu Lys Ser Leu Ser His Ser Pro Gly Lys
435 440

<210> 358
<211> 5
<212> PRT
<213> Mus musculus

<400> 358

Thr Tyr Trp Met Asn
1 5

<210> 359
<211> 17
<212> PRT
<213> Mus musculus

<400> 359

Met Ile His Pro Ser Ala Ser Glu Ile Arg Leu Asp Gln Lys Phe Lys
1 5 10 15

Asp

<210> 360
<211> 9
<212> PRT
<213> Mus musculus

<400> 360

Ser Gly Glu Trp Gly Ser Met Asp Tyr
1 5

<210> 361
<211> 1329
<212> DNA
<213> Mus musculus

<400> 361
cagggtccaac tacagcagcc tgggactgag ctggtgaggc ctggaacttc agtgaagttg 60

tcctgtaagg cttctggcta catcttcacc acctactgga tgaactgggt gaaacagagg 120

eolf-seql.txt

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cctggacaag gccttgagt gattggcatg attcatcctt cgcgaagtga aattaggttg      180
gatcagaaat tcaaggacaa ggccacattg actcttgaca aatcctccag cacagcctat      240
atgcacctca gcggccccgac atctgtggat tctgcggtct attactgtgc aagatcaggg      300
gaatgggggt ctatggacta ctgggggtcaa ggaacctcag tcaccgtctc ctcagccaaa      360
acgacacccc catctgtcta tccactggcc cctggatctg ctgccccaaac taactccatg      420
gtgaccctgg gatgcctggg caagggctat ttccctgagc cagtgcaggt gacctggaac      480
tctggatccc tgtccagcgg tgtgcacacc ttcccagctg tcctgcagtc tgacctctac      540
actctgagca gctcagtgac tgtcccctcc agcacctggc ccagcgagac cgtcacctgc      600
aacgttgccc acccgccag cagcaccaag gtggacaaga aaattgtgcc cagggattgt      660
ggttgtaagc cttgcatatg tacagtcca gaagtatcat ctgtcttcat cttcccccca      720
aagcccaagg atgtgtcac cattactctg actcctaagg tcacgtgtgt tgtggtagac      780
atcagcaagg atgatccga ggtccagttc agctggtttg tagatgatgt ggaggtgcac      840
acagctcaga cgcaaccccg ggaggagcag ttcaacagca ctttccgctc agtcagttaa      900
cttcccatca tgcaccagga ctgggtcaat ggcaaggagt tcaaatgcag ggtcaacagt      960
gcagctttcc ctgcccccat cgagaaaacc atctccaaaa ccaaaggcag accgaaggct    1020
ccacaggtgt acaccattcc acctcccaag gagcagatgg ccaaggataa agtcagtctg    1080
acctgcatga taacagactt cttccctgaa gacattactg tggagtggca gtggaatggg    1140
cagccagcgg agaactacaa gaacactcag cccatcatgg acacagatgg ctcttacttc    1200
atctacagca agtcaatgt gcagaagagc aactgggagg caggaaatac tttcacctgc    1260
tctgtgttac atgagggcct gcacaaccac catactgaga agagcctctc ccactctcct    1320
ggtaaataga                                     1329

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<210> 362
 <211> 461
 <212> PRT
 <213> Mus musculus

<400> 362

Met Gly Trp Ser Ser Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
 1 5 10 15

Val His Ser Gln Val Gln Leu Gln Gln Pro Gly Thr Glu Leu Val Arg
 20 25 30

Pro Gly Thr Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Ile Phe
 35 40 45

Thr Thr Tyr Trp Met Asn Trp Val Lys Gln Arg Pro Gly Gln Gly Leu
 50 55 60

Glu Trp Ile Gly Met Ile His Pro Ser Ala Ser Glu Ile Arg Leu Asp
 Page 229

eolf-seql.txt

```

65              70              75              80
Gln Lys Phe Lys Asp Lys Ala Thr Leu Thr Leu Asp Lys Ser Ser Ser
      85              90
Thr Ala Tyr Met His Leu Ser Gly Pro Thr Ser Val Asp Ser Ala Val
      100              105              110
Tyr Tyr Cys Ala Arg Ser Gly Glu Trp Gly Ser Met Asp Tyr Trp Gly
      115              120              125
Gln Gly Thr Ser Val Thr Val Ser Ser Ala Lys Thr Thr Pro Pro Ser
      130              135              140
Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr Asn Ser Met Val
      145              150              155
Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val Thr Val
      165              170              175
Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr Phe Pro Ala
      180              185              190
Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val Thr Val Pro
      195              200              205
Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys Asn Val Ala His Pro
      210              215              220
Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val Pro Arg Asp Cys Gly
      225              230              235
Cys Lys Pro Cys Ile Cys Thr Val Pro Glu Val Ser Ser Val Phe Ile
      245              250              255
Phe Pro Pro Lys Pro Lys Asp Val Leu Thr Ile Thr Leu Thr Pro Lys
      260              265              270
Val Thr Cys Val Val Val Asp Ile Ser Lys Asp Asp Pro Glu Val Gln
      275              280              285
Phe Ser Trp Phe Val Asp Asp Val Glu Val His Thr Ala Gln Thr Gln
      290              295              300
Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser Val Ser Glu Leu
      305              310              315              320
Pro Ile Met His Gln Asp Trp Leu Asn Gly Lys Glu Phe Lys Cys Arg
      325              330              335
Val Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys

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340

345

350

Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr Ile Pro Pro Pro
 355 360 365

Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr Cys Met Ile Thr
 370 375 380

Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln Trp Asn Gly Gln
 385 390 395 400

Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met Asp Thr Asp Gly
 405 410 415

Ser Tyr Phe Ile Tyr Ser Lys Leu Asn Val Gln Lys Ser Asn Trp Glu
 420 425 430

Ala Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu Gly Leu His Asn
 435 440 445

His His Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys
 450 455 460

<210> 363
 <211> 1386
 <212> DNA
 <213> Mus musculus

<400> 363
 atgggatgga gctctatcat cctcttcttg gtagcaacag ctacaggtgt ccaactccag 60
 gtccaactac agcagcctgg gactgagctg gtgaggcctg gaacttcagt gaagttgtcc 120
 tgtaaggctt ctggctacat cttcaccacc tactggatga actgggtgaa acagaggcct 180
 ggacaaggcc ttgagtggat tggcatgatt catccttccg caagtgaaat taggttggat 240
 cagaaattca aggacaaggc cacattgact cttgacaaat cctccagcac agcctatatg 300
 cacctcagcg gcccgaatc tgtggattct gcggtctatt actgtgcaag atcaggggaa 360
 tgggggtcta tggactactg gggccaagga acctcagtca cgtctcctc agccaaaacg 420
 acaccccat ctgtctatcc actggcccct ggatctgctg cccaaactaa ctccatggtg 480
 accctgggat gcctgggtcaa gggctatttc cctgagccag tgacagtgac ctggaactct 540
 ggatccctgt ccagcgggtg gcacaccttc ccagctgtcc tgcagtctga cctctacact 600
 ctgagcagct cagtgactgt cccctccagc acctggccca gcgagaccgt cacctgcaac 660
 gttgccacc cggccagcag caccaagggt gacaagaaaa ttgtgccag ggattgtggt 720
 tgtaagcctt gcatatgtac agtcccagaa gtatcatctg tcttcatctt cccccaaag 780
 cccaaggatg tgctcaccat tactctgact cctaagggtca cgtgtgttgt ggtagacatc 840
 agcaaggatg atcccagggt ccagttcagc tggttttag atgatgtgga ggtgcacaca 900
 gctcagacgc aaccccgga ggagcagttc aacagcactt tccgctcagt cagtgaactt 960

eolf-seql.txt

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cccatcatgc accaggactg gctcaatggc aaggagttca aatgcagggg caacagtgc 1020
gctttccctg ccccatcgaa gaaaaccatc tccaaaacca aaggcagacc gaaggctcca 1080
caggtgtaca ccattccacc tcccaaggag cagatggcca aggataaagt cagtctgacc 1140
tgcatagataa cagacttctt ccctgaagac attactgtgg agtggcagtg gaatgggcag 1200
ccagcggaga actacaagaa cactcagccc atcatggaca cagatggctc ttacttcac 1260
tacagcaagc tcaatgtgca gaagagcaac tgggaggcag gaaatacttt cacctgctct 1320
gtgttacatg agggcctgca caaccacat actgagaaga gcctctccca ctctcctggt 1380
aaatga 1386

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<210> 364
 <211> 106
 <212> PRT
 <213> Mus musculus

<400> 364

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Ile Ser Ser Tyr
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Ser Thr Ser Arg Leu Asn Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Asp Ile Lys His Pro Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 365
 <211> 318
 <212> DNA
 <213> Mus musculus

<400> 365

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gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggatga ccgtgtcacc 60
atcacttgcc gcgcaagtca ggatattagc agctatttaa attggtatca gcagaaacca 120
gggaaagccc ctaagctcct gatctattct acttcccgtt tgaatagtgg ggtcccatca 180
cgcttcagtg gcagtggctc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg caacttacta ctgtcaacag gatattaaac accctacgtt cgggtcaaggc 300

```


accaaggtgg agatcaaa

318

<210> 366
 <211> 120
 <212> PRT
 <213> Mus musculus

<400> 366

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Phe Thr Phe Thr Asp Tyr
 20 25 30

Ile Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Tyr Ile Asn Pro Tyr Asn Asp Asp Thr Glu Tyr Asn Glu Lys Phe
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ser Ile Tyr Tyr Tyr Asp Ala Pro Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 367
 <211> 360
 <212> DNA
 <213> Mus musculus

<400> 367

gaggtgcagc tgggtgcagtc tggggctgag gtgaagaagc ctgggtcctc ggtgaaggtc 60
 tcctgcaagg cttctggttt taccttcacc gactatatta tgcactgggt gcgtcaggcc 120
 cctgggtcaag ggcttgagt gatgggctat atcaaccctt ataatgatga caccgaatac 180
 aacgagaagt tcaagggccg tgtcacgatt accgcggaca aatccacgag cacagcctac 240
 atggagctga gcagcctgcg ctctgaggac acggccgtgt attactgtgc gcgttcgatt 300
 tattactacg atgccccgtt tgcttactgg ggccaaggga ctctgggtcac cgtctctagt 360

<210> 368
 <211> 108
 <212> PRT
 <213> Mus musculus

<400> 368

eolf-seql.txt

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Val Phe Thr Ala
20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Trp Ala Ser Thr Arg His Thr Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Ser Tyr Pro Leu
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 369
<211> 324
<212> DNA
<213> Mus musculus

<400> 369
gatatccaga tgaccagag cccgagcagc ctgagcgcga gcgtgggcga tcgcgtgacc 60
attacctgca aagcgagcca ggatgtgttt accgcggtgg cgtggtatca gcagaaaccg 120
ggcaaagcgc cgaaactgct gatttattgg gcgagcacc gccataccgg cgtgccgagt 180
cgcttttagcg gcagcggcag cggcaccgat tttaccctga ccattagcag cctgcagccg 240
gaagattttg cgacctatta ttgccagcag tatagcagct atccgctgac ctttggcggc 300
ggcaccaaag tggaataa acgt 324

<210> 370
<211> 119
<212> PRT
<213> Mus musculus

<400> 370
Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Phe Asn Ile Lys Asp Tyr
20 25 30

Tyr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Arg Ile Asp Pro Glu Asn Gly Asp Ile Ile Tyr Asp Pro Lys Phe
Page 234

eolf-seql.txt

50

55

60

Gln Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Tyr Asp Ala Gly Asp Pro Ala Trp Phe Thr Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 371
<211> 357
<212> DNA
<213> Mus musculus

<400> 371
gaagtgcagc tgggtgcagag cggcgcggaac gtgaaaaaac cgggcgcgag cgtgaaagtg 60
agctgcaaag cgagcggctt taacattaaa gattattata tgcattgggt gcgccaggcg 120
ccggggccagg gcctggaatg gatcggccgc attgatccgg aaaacggcga tattatttat 180
gatccgaaat ttcagggccg cgtgaccatg accaccgata ccagcaccag caccgcgtat 240
atggaactgc gcagcctgcg cagcgatgat accgcggtgt attattgcgc gtatgatgcg 300
ggcgatccgg cgtggtttac ctattggggc cagggcaccc tggtgaccgt ctcgagc 357

<210> 372
<211> 108
<212> PRT
<213> Mus musculus

<400> 372

Asp Ile Gln Leu Thr Gln Ser Pro Ser Phe Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Ser Val Ser Ser Ser Ile Ser Ser Ser
20 25 30

Asn Leu His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Gly Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln
65 70 75 80

Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Thr Thr Thr Tyr
85 90 95

eolf-seql.txt

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg
100 105

<210> 373
<211> 324
<212> DNA
<213> Mus musculus

<400> 373
gatattcagc tgaccagag cccgagcttt ctgagcgca gcgtagggcga tcgctgacc 60
attacctgca gctgagcag cagcattagc agcagcaacc tgcattggta tcagcagaaa 120
ccgggcaaag cgccgaaact gctgatttat ggcaccagca acctggcgag cggcgtgccg 180
agccgcttta gcggcagcgg cagcggcacc gaatttacc tgaccattag cagcctgcag 240
ccggaagatt ttgcgaccta ttattgccag cagtggacca ccacctatac ctttgccag 300
ggcaccaaac tggaaattaa acgt 324

<210> 374
<211> 122
<212> PRT
<213> Mus musculus

<400> 374
Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Phe Asn Ile Lys Asp Tyr
20 25 30
Tyr Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45
Gly Arg Ile Asp Pro Asp Asn Gly Glu Ser Thr Tyr Val Pro Lys Phe
50 55 60
Gln Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80
Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Arg Glu Gly Leu Asp Tyr Gly Asp Tyr Tyr Ala Val Asp Tyr Trp
100 105 110
Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 375
<211> 366
<212> DNA
<213> Mus musculus

eolf-seql.txt

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<400> 375
gaagtgcagc tggtgcagag cggcgcgga gtgaaaaaac cgggcgcgag cgtgaaagtg      60
agctgcaaag cgagcggcctt taacattaaa gattattata ttcattgggt gcgccaggcg      120
ccggggccagg gcctggaatg gatggggccgc attgatccgg ataacggcga aagcacctat      180
gtgccgaaat ttcagggccg cgtgaccatg accaccgata ccagcaccag caccgcgtat      240
atggaactgc gcagcctgcg cagcgatgat accgcggtgt attattgcgc gcgcgaaggc      300
ctggattatg gcgattatta tgcggtggat tattggggcc agggcacctt ggtgaccgtc      360
tcgagc                                     366
```

```
<210> 376
<211> 107
<212> PRT
<213> Mus musculus

<400> 376
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Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1             5             10             15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Ile Ser Asn Tyr
          20             25             30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
      35             40             45

Tyr Tyr Thr Ser Arg Leu Leu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50             55             60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65             70             75             80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Asp Thr Leu Pro Tyr
          85             90             95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
      100             105
```

```
<210> 377
<211> 321
<212> DNA
<213> Mus musculus
```

```
<400> 377
gacatccaga tgaccagtc tccatcctcc ctctccgcat ccgtaggcga ccgcgtaacc      60
ataacatgta gagcatctca agatatttcc aactatttga attggtacca aaaaaaacc      120
ggcaaagcac ctaaactcct catttactat acatcaagac tcctctccgg cgttccatca      180
cgattctcag gtcctggctc cggcacagat ttcacactca ctatttcctc cctccaacca      240
gaagattttg caacctatta ctgtcaacaa ggcgatacac tccatacac attcggcggc      300
ggcacaaaag ttgaaattaa a                                     321
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eolf-seql.txt

<210> 378
 <211> 123
 <212> PRT
 <213> Mus musculus

<400> 378

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Asn Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Glu Ile Asn Pro Asn Ser Gly Gly Ala Gly Tyr Asn Gln Lys Phe
 50 55 60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Leu Gly Tyr Asp Asp Ile Tyr Asp Asp Trp Tyr Phe Asp Val
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 379
 <211> 369
 <212> DNA
 <213> Mus musculus

<400> 379
 gaggtgcagc tgggtgcagag cggcgccgag gtaaaaaaac caggagcaag cggttaaagtt 60
 tcttgtaaag caagcggata tacatttaca gattacaaca tgcattgggt aagacaagcg 120
 ccaggacaag gattggaatg gatgggcgaa attaacccta atagtggagg agcaggctac 180
 aatcaaaaaat tcaaaggag agttacaatg acaacagaca caagcacttc aacagcatat 240
 atggaactgc gatcacttag aagcgacgat acagctgtat actattgcgc acgacttggg 300
 tatgatgata tatatgatga ctggtatttc gatgtttggg gccaggggaac aacagttacc 360
 gtctctagt 369

<210> 380
 <211> 108
 <212> PRT
 <213> Mus musculus

<400> 380

eolf-seql.txt

Asp Ile Gln Leu Thr Gln Ser Pro Ser Phe Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Val Thr Ser Ser
20 25 30

Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln
65 70 75 80

Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Asp Phe Phe Pro
85 90 95

Ser Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 381
<211> 324
<212> DNA
<213> Mus musculus

<400> 381	
gacatccagc tgacccagag ccccagcttc ctttccgcat ccgttggtga ccgagtaaca	60
atcacatgcc ggcctcatc ttcagttaca tcttcttata ttaattggta tcaacaaaaa	120
ccaggaaaag cacctaaact tcttatatac tctacatcta atctcgcatc aggagttccc	180
tctcgatttt caggatctgg atcaggcaca gaatttacac ttactatata atcactccaa	240
ccagaagact tcgccactta ttactgccaa caatacgatt tttttccaag cacattcgga	300
ggaggtacaa aagtagaaat caag	324

<210> 382
<211> 121
<212> PRT
<213> Mus musculus

<400> 382

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Tyr Met Asn Trp Val Arg Gln Ala Pro Gly Gln Arg Leu Glu Trp Met
35 40 45

Gly Asp Ile Asn Pro Tyr Asn Asp Asp Thr Thr Tyr Asn His Lys Phe

50

55

Lys Gly Arg Val Thr Ile Thr Arg Asp Thr Ser Ala Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Thr Ala Val Ile Thr Thr Asn Ala Met Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 383
<211> 363
<212> DNA
<213> Mus musculus

<400> 383
gaggtgcagc tgggtgcagag cggcgccgag gtcaagaaac ctggagcaag cgtaaagggt 60
agttgcaaag catctggata cacatttacc gactactaca tgaattgggt acgacaagcc 120
cctggacaaa gacttgaatg gatgggagac attaaccctt ataacgacga cactacatac 180
aatcataaat ttaaaggaag agttacaatt acaagagata catccgcatc aaccgcctat 240
atggaacttt cctcattgag atctgaagac actgctgttt attactgtgc aagagaaact 300
gccgttatta ctactaacgc tatggattac tgggggtcaag gaaccactgt taccgtctct 360
agt 363

<210> 384
<211> 108
<212> PRT
<213> Mus musculus

<400> 384

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Ser Val Ser Ser Thr Ile Ser Ser Asn
20 25 30

His Leu His Trp Phe Gln Gln Lys Pro Gly Lys Ala Pro Lys Ser Leu
35 40 45

Ile Tyr Gly Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln
65 70 75 80

Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Tyr Pro
Page 240

Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 385
 <211> 324
 <212> DNA
 <213> Mus musculus

<400> 385
 gacatccaga tgaccagtc tccatcctcc ctctcagcat ccgtaggcga tagagttaca 60
 ataacatgca gcgtatcatc aactatatca tcaaatcatc ttcattgggtt ccaacagaaa 120
 cccggcaaag cacctaaatc acttatatac ggcacatcaa atctcgcatc aggcgttcct 180
 tcaagatttt caggctctgg ctcaggcacc gactttactc ttacaatatc ctccctccaa 240
 cccgaagact tcgcaaccta ttactgtcaa caatggtcct catatccact cacatttggc 300
 ggcggcacaa aagtagaaat taaa 324

<210> 386
 <211> 125
 <212> PRT
 <213> Mus musculus

<400> 386
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Asp Phe Asn Ile Lys Asp Phe
 20 25 30
 Tyr Leu His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45
 Gly Arg Ile Asp Pro Glu Asn Gly Asp Thr Leu Tyr Asp Pro Lys Phe
 50 55 60
 Gln Asp Lys Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80
 Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Glu Ala Asp Tyr Phe His Asp Gly Thr Ser Tyr Trp Tyr Phe
 100 105 110
 Asp Val Trp Gly Arg Gly Thr Leu Val Thr Val Ser Ser
 115 120 125

<210> 387
 <211> 375
 <212> DNA

eolf-seql.txt

<213> Mus musculus

<400> 387
gaggtgcagc tgggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc 60
tcctgcaagg cttctgactt caacattaaa gacttctatc tacactgggt gcgacaggcc 120
cctggacaag ggcttgagtg gattggaagg attgatacctg agaatgggtga tactttatat 180
gacccgaagt tccaggacaa ggtcaccatg accacagaca cgtccaccag cacagcctac 240
atggagctga ggagcctgag atctgacgac acggccgtgt attactgtgc gagagaggcg 300
gattatttcc acgatggtac ctcctactgg tacttcgatg tctggggccg tggcaccctg 360
gtcaccgtct ctagt 375

<210> 388
<211> 106
<212> PRT
<213> Mus musculus

<400> 388
Asp Ile Gln Leu Thr Gln Ser Pro Ser Phe Leu Ser Ala Ser Val Gly
1 5 10 15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Ile Ser Tyr Ile
20 25 30
His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr
35 40 45
Ala Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
50 55 60
Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80
Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asp Pro Leu Thr
85 90 95
Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 389
<211> 318
<212> DNA
<213> Mus musculus

<400> 389
gacatccagt tgaccagtc tccatccttc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgca gggccagctc aagtataagt tacatacact ggtatcagca aaaaccaggg 120
aaagccccta agctcctgat ctatgccaca tccaacctgg cttctgggggt cccatcaagg 180
ttcagcggca gtggatctgg gacagaattc actctcacia tcagcagcct gcagcctgaa 240
gattttgcaa cttattactg tcagcagtgg agtagtgacc cactcacgtt cggcggaggg 300

accaaggtgg agatcaaa

<210> 390
 <211> 121
 <212> PRT
 <213> Mus musculus

<400> 390

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Phe Asp Ile Lys Asp Tyr
 20 25 30

Tyr Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45

Gly Arg Val Asp Pro Asp Asn Gly Glu Thr Glu Phe Ala Pro Lys Phe
 50 55 60

Pro Gly Lys Val Thr Met Thr Thr Asp Thr Ser Ile Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Glu Asp Tyr Asp Gly Thr Tyr Thr Trp Phe Pro Tyr Trp Gly
 100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 391
 <211> 363
 <212> DNA
 <213> Mus musculus

<400> 391

gaggtgcagc tgggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc 60
 tcctgcaagg cttctggatt cgacattaag gactactata tacactgggt gcgacaggcc 120
 cctggacaag ggcttgagt gatcggaagg gttgacctg acaatggtga gactgaattt 180
 gccccgaagt tcccgggcaa ggtcaccatg accacagaca cgtccatcag cacagcctac 240
 atggagctga gcaggctgag atctgacgac acggccgtgt attactgtgc gagagaagac 300
 tacgatggta cctacacctg gtttccttat tggggccaag ggactctggt caccgtctct 360
 agt 363

<210> 392
 <211> 448
 <212> PRT
 <213> Artificial Sequence

eolf-seql.txt

<220>

<223> Synthetic Polypeptide

<220>

<221> MISC_FEATURE

<223> Humanized Antibody Sequence

<400> 392

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Asn Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Glu Ile Asn Pro Asn Ser Gly Gly Ala Gly Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Leu Gly Tyr Asp Asp Ile Tyr Asp Asp Trp Tyr Phe Asp Val
100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly
115 120 125

Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser
130 135 140

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
145 150 155 160

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
165 170 175

Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
180 185 190

Thr Val Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val
195 200 205

Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys
210 215 220

Cys Cys Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro
Page 244

eolf-seql.txt

<400> 393

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Tyr Met Asn Trp Val Arg Gln Ala Pro Gly Gln Arg Leu Glu Trp Met
35 40 45

Gly Asp Ile Asn Pro Tyr Asn Asp Asp Thr Thr Tyr Asn His Lys Phe
50 55 60

Lys Gly Arg Val Thr Ile Thr Arg Asp Thr Ser Ala Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Thr Ala Val Ile Thr Thr Asn Ala Met Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
115 120 125

Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala
130 135 140

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
145 150 155 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
165 170 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
180 185 190

Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His
195 200 205

Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys
210 215 220

Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val
225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
260 265 270

eolf-seql.txt

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
275 280 285

Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser
290 295 300

Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
305 310 315 320

Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile
325 330 335

Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
340 345 350

Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser
385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
405 410 415

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
435 440 445

<210> 394
<211> 450
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Humanized Antibody Sequence

<400> 394

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Asp Phe Asn Ile Lys Asp Phe
20 25 30

eolf-seql.txt

Tyr Leu His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45
 Gly Arg Ile Asp Pro Glu Asn Gly Asp Thr Leu Tyr Asp Pro Lys Phe
 50 55 60
 Gln Asp Lys Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80
 Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Glu Ala Asp Tyr Phe His Asp Gly Thr Ser Tyr Trp Tyr Phe
 100 105 110
 Asp Val Trp Gly Arg Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr
 115 120 125
 Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser
 130 135 140
 Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu
 145 150 155 160
 Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His
 165 170 175
 Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser
 180 185 190
 Val Val Thr Val Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys
 195 200 205
 Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu
 210 215 220
 Arg Lys Cys Cys Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala
 225 230 235 240
 Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
 245 250 255
 Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
 260 265 270
 Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val
 275 280 285
 His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
 290 295 300

eolf-seql.txt

Arg Val Val Ser Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly
 305 310 315 320

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile
 325 330 335

Glu Lys Thr Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val
 340 345 350

Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser
 355 360 365

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
 370 375 380

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
 385 390 395 400

Met Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
 405 410 415

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
 420 425 430

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
 435 440 445

Pro Gly
 450

<210> 395
 <211> 446
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Polypeptide

<220>
 <221> MISC_FEATURE
 <223> Humanized Antibody Sequence

<400> 395

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Phe Asp Ile Lys Asp Tyr
 20 25 30

Tyr Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45

eofl-seql.txt

Gly Arg Val Asp Pro Asp Asn Gly Glu Thr Glu Phe Ala Pro Lys Phe
50 55 60

Pro Gly Lys Val Thr Met Thr Thr Asp Thr Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Asp Tyr Asp Gly Thr Tyr Thr Trp Phe Pro Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
115 120 125

Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala
130 135 140

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
145 150 155 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
165 170 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
180 185 190

Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His
195 200 205

Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys
210 215 220

Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val
225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
260 265 270

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
275 280 285

Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser
290 295 300

Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
305 310 315 320

eolf-seql.txt

Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile
325 330 335

Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
340 345 350

Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser
385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
405 410 415

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
435 440 445

<210> 396

<211> 445

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Polypeptide

<220>

<221> MISC_FEATURE

<223> Humanized Antibody Sequence

<400> 396

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Phe Thr Phe Thr Asp Tyr
20 25 30

Ile Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Tyr Ile Asn Pro Tyr Asn Asp Asp Thr Glu Tyr Asn Glu Lys Phe
50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
Page 251

Ala Arg Ser Ile Tyr Tyr Tyr Asp Ala Pro Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
115 120 125

Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala
130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
180 185 190

Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His Lys
195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys Val
210 215 220

Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe
225 230 235 240

Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro
245 250 255

Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val
260 265 270

Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr
275 280 285

Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val
290 295 300

Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys
305 310 315 320

Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser
325 330 335

Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro
340 345 350

Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val

eolf-seql.txt

355

360

365

Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly
 370 375 380

Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp
 385 390 395 400

Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp
 405 410 415

Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His
 420 425 430

Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
 435 440 445

<210> 397
 <211> 213
 <212> PRT
 <213> Homo sapiens

<400> 397

Met Gln Leu Pro Leu Ala Leu Cys Leu Val Cys Leu Leu Val His Thr
 1 5 10 15

Ala Phe Arg Val Val Glu Gly Gln Gly Trp Gln Ala Phe Lys Asn Asp
 20 25 30

Ala Thr Glu Ile Ile Pro Glu Leu Gly Glu Tyr Pro Glu Pro Pro Pro
 35 40 45

Glu Leu Glu Asn Asn Lys Thr Met Asn Arg Ala Glu Asn Gly Gly Arg
 50 55 60

Pro Pro His His Pro Phe Glu Thr Lys Asp Val Ser Glu Tyr Ser Cys
 65 70 75 80

Arg Glu Leu His Phe Thr Arg Tyr Val Thr Asp Gly Pro Cys Arg Ser
 85 90 95

Ala Lys Pro Val Thr Glu Leu Val Cys Ser Gly Gln Cys Gly Pro Ala
 100 105 110

Arg Leu Leu Pro Asn Ala Ile Gly Arg Gly Lys Trp Trp Arg Pro Ser
 115 120 125

Gly Pro Asp Phe Arg Cys Ile Pro Asp Arg Tyr Arg Ala Gln Arg Val
 130 135 140

Gln Leu Leu Cys Pro Gly Gly Glu Ala Pro Arg Ala Arg Lys Val Arg
 145 150 155 160

eolf-seql.txt

Leu Val Ala Ser Cys Lys Cys Lys Arg Leu Thr Arg Phe His Asn Gln
165 170 175

Ser Glu Leu Lys Asp Phe Gly Thr Glu Ala Ala Arg Pro Gln Lys Gly
180 185 190

Arg Lys Pro Arg Pro Arg Ala Arg Ser Ala Lys Ala Asn Gln Ala Glu
195 200 205

Leu Glu Asn Ala Tyr
210

<210> 398
<211> 444
<212> PRT
<213> Artificial

<220>
<223> Miscellaneous construct

<400> 398

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Phe Leu Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Thr Ile Tyr Pro Tyr His Asp Gly Thr Thr Tyr Ser Gln Lys Phe
50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Glu Glu Asp Gly Gln Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
115 120 125

Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly
130 135 140

Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn
145 150 155 160

eo1f-seq1.txt

Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln
165 170 175

Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser
180 185 190

Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His Lys Pro Ser
195 200 205

Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys
210 215 220

Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val Phe Leu
225 230 235 240

Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
245 250 255

Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln
260 265 270

Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys
275 280 285

Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser Val Leu
290 295 300

Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys
305 310 315 320

Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys
325 330 335

Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
340 345 350

Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
355 360 365

Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln
370 375 380

Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly
385 390 395 400

Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg Trp Gln
405 410 415

Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
420 425 430

eolf-seql.txt

His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly
 435 440

<210> 399
 <211> 444
 <212> PRT
 <213> Artificial

<220>
 <223> Miscellaneous construct

<400> 399

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Val Ser Gly Phe Pro Ile Lys Asp Thr
 20 25 30

Phe Gln His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ser Asp Pro Glu Ile Gly Asp Thr Glu Tyr Ala Ser Lys Phe
 50 55 60

Gln Gly Arg Val Thr Met Thr Glu Asp Thr Ser Thr Asp Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Thr Gly Asp Thr Thr Tyr Lys Phe Asp Phe Trp Gly Gln Gly Thr
 100 105 110

Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
 115 120 125

Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly
 130 135 140

Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn
 145 150 155 160

Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln
 165 170 175

Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser
 180 185 190

Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His Lys Pro Ser
 195 200 205

Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys
 210 215 220

eolf-seql.txt

Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val Phe Leu
225 230 235 240

Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
245 250 255

Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln
260 265 270

Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys
275 280 285

Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser Val Leu
290 295 300

Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys
305 310 315 320

Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys
325 330 335

Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
340 345 350

Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
355 360 365

Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln
370 375 380

Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly
385 390 395 400

Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg Trp Gln
405 410 415

Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
420 425 430

His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly
435 440

<210> 400
<211> 450
<212> PRT
<213> Artificial

<220>
<223> Miscellaneous construct

<400> 400

eof-seql.txt

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Glu
 1 5 10 15
 Ser Leu Lys Ile Ser Cys Lys Gly Ser Asp Phe Glu Ile Lys Asp Tyr
 20 25 30
 Tyr Ile His Trp Val Arg Gln Met Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45
 Gly Gln Ile Asp Ala Glu Asp Gly Glu Thr Glu Tyr Ala Pro Arg Phe
 50 55 60
 Gln Gly Gln Val Thr Ile Ser Ala Asp Lys Ser Ile Ser Thr Ala Tyr
 65 70 75 80
 Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met Tyr Tyr Cys
 85 90 95
 Ala Arg Glu Gly Tyr Tyr Tyr Asp Gly Arg Asp Tyr Trp Tyr Phe Asp
 100 105 110
 Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys
 115 120 125
 Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu
 130 135 140
 Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro
 145 150 155 160
 Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr
 165 170 175
 Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val
 180 185 190
 Val Thr Val Pro Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn
 195 200 205
 Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser
 210 215 220
 Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly
 225 230 235 240
 Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
 245 250 255
 Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln
 260 265 270

eolf-seql.txt

Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val
275 280 285

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr
290 295 300

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
305 310 315 320

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile
325 330 335

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
340 345 350

Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser
355 360 365

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
370 375 380

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
385 390 395 400

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val
405 410 415

Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met
420 425 430

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
435 440 445

Leu Gly
450

<210> 401
<211> 214
<212> PRT
<213> Artificial

<220>
<223> Miscellaneous construct

<400> 401

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Ser Ala Ser Gln Gly Ile Gln Trp Tyr
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

eolf-seql.txt

Tyr Tyr Thr Ser Ser Leu His Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln His Ser Lys Leu Pro Arg
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
115 120 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
130 135 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145 150 155 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
165 170 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
180 185 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
195 200 205

Phe Asn Arg Gly Glu Cys
210

<210> 402
<211> 214
<212> PRT
<213> Artificial

<220>
<223> Miscellaneous construct

<400> 402

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Val His Thr Ala
20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

eolf-seql.txt

Tyr Trp Ala Ser Thr Arg Trp Thr Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Asp Tyr Pro Trp
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
115 120 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
130 135 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145 150 155 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
165 170 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
180 185 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
195 200 205

Phe Asn Arg Gly Glu Cys
210

<210> 403
<211> 213
<212> PRT
<213> Artificial

<220>
<223> Miscellaneous construct

<400> 403

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Ser Ala Ser Ser Ser Val Ser Tyr Ile
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr
35 40 45

Ser Thr Ser Glu Leu Ala Ser Gly Ile Pro Ala Arg Phe Ser Gly Ser
50 55 60

eolf-seql.txt

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro Glu
65 70 75 80

Asp Phe Ala Val Tyr Tyr Cys Gln Gln Leu Ser His Leu Pro Leu Thr
85 90 95

Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro
100 105 110

Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr
115 120 125

Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys
130 135 140

Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu
145 150 155 160

Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser
165 170 175

Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala
180 185 190

Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe
195 200 205

Asn Arg Gly Glu Cys
210

<210> 404
<211> 1332
<212> DNA
<213> Artificial

<220>
<223> Miscellaneous construct

<400> 404
caggtgcagc tggtgcagtc tggggctgag gtgaagaagc ctgggtcctc agtgaaggtt 60
tcctgcaagg catctggata cacattcact gactactttc tgaactgggt gcgacaggcc 120
cctggacaag ggcttgagt gatgggaact atttaccctt accatgatgg tactacctac 180
tctcagaagt tcaagggcag agtcaccatt accgcggaca aatccacgag cacagcctac 240
atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc gagagaggaa 300
gaggatggtc agttcgacta ctggggccaa ggaaccacgg tcaccgtctc ctcagcctcc 360
accaagggcc catcggctctt cccgctagcg ccctgctcca ggagcacctc cgagagcaca 420
gccgccctgg gctgcctggg caaggactac ttccccgaac cgggtgacggg gtcgtggaac 480
tcaggcgccc tgaccagcgg cgtgcacacc ttccgggctg tcctacagtc ctcaggactc 540

eolf-seql.txt

tactccctca	gcagcgtggt	gaccgtgccc	tccagcagct	tgggcacgaa	gacctacacc	600
tgcaacgtag	atcacaagcc	cagcaacacc	aaggtggaca	agagagttga	gtccaaatat	660
ggtcccccat	gcccaccctg	cccagcacct	gagttcctgg	ggggaccatc	agtcttcctg	720
ttccccccaa	aaccaagga	cactctcatg	atctcccgga	cccctgaggt	cacgtgctg	780
gtggtggacg	tgagccagga	agaccccgag	gtccagttca	actggtacgt	ggatggcgtg	840
gaggtgcata	atgccaagac	aaagccgcgg	gaggagcagt	tcaacagcac	gtaccgtgtg	900
gtcagcgtcc	tcaccgtcct	gcaccaggac	tggctgaacg	gcaaggagta	caagtgaag	960
gtctccaaca	aaggcctccc	gtcctccatc	gagaaaacca	tctccaaagc	caaagggcag	1020
ccccgagagc	cacaggtgta	caccctgccc	ccatcccagg	aggagatgac	caagaaccag	1080
gtcagcctga	cctgcctggt	caaaggcttc	taccccagcg	acatcgccgt	ggagtgggaa	1140
agcaatgggc	agccggagaa	caactacaag	accacgcctc	ccgtgctgga	ctccgacggc	1200
tccttcttcc	tctacagcag	gctaaccgtg	gacaagagca	ggtggcagga	ggggaatgtc	1260
ttctcatgct	ccgtgatgca	tgaggctctg	cacaaccact	acacacagaa	gagcctctcc	1320
ctgtctctgg	gt					1332

<210> 405
 <211> 1332
 <212> DNA
 <213> Artificial

<220>
 <223> Miscellaneous construct

<400> 405	
caggttcagc	tggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc 60
tcctgcaagg	tttccggctt cccattaag gacaccttc agcactgggt gcgacaggct 120
cctggaaaag	ggcttgagt gatgggatgg agcgatcctg agatcgggtga tactgaatat 180
gcctcgaagt	tccagggcag agtcaccatg accgaggaca catctacaga cacagcctac 240
atggagctga	gcagcctgag atctgaggac acggccgtgt attactgtgc aacaggcgac 300
accacataca	agtttgactt ctgggggcaa gggaccacgg tcaccgtctc ctcagcctcc 360
accaagggcc	catcggctct cccgctagcg ccctgtcca ggagcacctc cgagagcaca 420
gccgccctgg	gctgcctggt caaggactac ttccccgaac cggtgacggg gtcgtggaac 480
tcaggcgccc	tgaccagcgg cgtgcacacc ttcccggctg tcctacagtc ctcaggactc 540
tactccctca	gcagcgtggt gaccgtgccc tccagcagct tgggcacgaa gacctacacc 600
tgcaacgtag	atcacaagcc cagcaacacc aaggtggaca agagagttga gtccaaatat 660
ggtcccccat	gcccaccctg cccagcacct gagttcctgg ggggaccatc agtcttcctg 720
ttccccccaa	aaccaagga cactctcatg atctcccgga cccctgaggt cacgtgctg 780
gtggtggacg	tgagccagga agaccccgag gtccagttca actggtacgt ggatggcgtg 840
gaggtgcata	atgccaagac aaagccgcgg gaggagcagt tcaacagcac gtaccgtgtg 900

eolf-seql.txt

gtcagcgtcc	tcaccgtcct	gcaccaggac	tggctgaacg	gcaaggagta	caagtgaag	960
gtctccaaca	aaggcctccc	gtcctccatc	gagaaaacca	tctccaaagc	caaagggcag	1020
ccccgagagc	cacaggtgta	caccctgccc	ccatcccagg	aggagatgac	caagaaccag	1080
gtcagcctga	cctgcctggt	caaaggcttc	taccccagcg	acatcgccgt	ggagtgggaa	1140
agcaatgggc	agccggagaa	caactacaag	accacgcctc	ccgtgctgga	ctccgacggc	1200
tccttcttcc	tctacagcag	gctaaccgtg	gacaagagca	ggtggcagga	ggggaatgtc	1260
ttctcatgct	ccgtgatgca	tgaggctctg	cacaaccact	acacacagaa	gagcctctcc	1320
ctgtctctgg	gt					1332

<210> 406
 <211> 1350
 <212> DNA
 <213> Artificial

<220>
 <223> Miscellaneous construct

<400> 406	
gaggtgcagc	tggtgcagtc tggagcagag gtgaaaaagc ccggggagtc tctgaagatc 60
tcctgtaagg	gttctgactt cgagattaaa gactactata tacattgggt gcgccagatg 120
cccgggaaag	gcctggagtg gatggggcag attgatgctg aggatgggtga aactgaatat 180
gccccgaggt	tccagggcca ggtcaccatc tcagccgaca agtccatcag caccgcctac 240
ctgcagtgga	gcagcctgaa ggcctcggac accgccatgt attactgtgc gagagaggggt 300
tattactacg	atgggcgcga ctactggtac ttcgatgtct ggggccaagg gaccacggtc 360
accgtctcct	cagcctccac caagggccca tcgggtcttc cgctagcgcc ctgctccagg 420
agcacctccg	agagcacagc cgccctgggc tgccctggtca aggactactt ccccgaaaccg 480
gtgacggtgt	cgtggaactc aggcgcctg accagcggcg tgcacacctt cccggctgtc 540
ctacagtcct	caggactcta ctccctcagc agcgtggtga ccgtgccctc cagcagcttg 600
ggcacgaaga	cctacacctg caacgtagat cacaagccca gcaacaccaa ggtggacaag 660
agagttgagt	ccaaatatgg tccccatgc ccaccctgcc cagcacctga gttcctgggg 720
ggaccatcag	tcttctgtt cccccaaaa cccaaggaca ctctcatgat ctcccggacc 780
cctgaggtca	cgtgcgtggt ggtggacgtg agccaggaag accccgaggt ccagttcaac 840
tggtacgtgg	atggcgtgga ggtgcataat gccaaagaaa agccgcggga ggagcagttc 900
aacagcacgt	accgtgtggt cagcgtcctc accgtcctgc accaggactg gctgaacggc 960
aaggagtaca	agtgaagggt ctccaacaaa ggcctcccgt cctccatcga gaaaaccatc 1020
tccaaagcca	aagggcagcc ccgagagcca caggtgtaca ccctgcccc atcccaggag 1080
gagatgacca	agaaccaggt cagcctgacc tgcctggtca aaggcttcta ccccagcgac 1140
atcgccgtgg	agtgggaaag caatgggcag ccggagaaca actacaagac cagcctccc 1200
gtgctggact	ccgacggctc cttcttcctc tacagcaggc taaccgtgga caagagcagg 1260

eolf-seql.txt

tggcaggagg ggaatgtctt ctcattgtcc gtgatgcatg aggctctgca caaccactac	1320
acacagaaga gcctctccct gtctctgggt	1350

<210> 407
 <211> 642
 <212> DNA
 <213> Artificial

<220>
 <223> Miscellaneous construct

<400> 407	
gacatccaga tgaccagtc tccatcctct ctgtctgcat ctgtaggaga cagagtcacc	60
atcacttgca gtgcaagtca gggcattcag tggatattta actggtatca gcagaaacca	120
gggaaagccc ctaagctcct gatctattac acatcaagtt tacactcagg ggtcccatca	180
aggttcagt gcatggatc tgggacagat ttcactctca ccatcagcag tctgcaacct	240
gaagattttg caacttacta ctgtcagcag catagtaaac ttcctcggac gttcggcgga	300
gggaccaagg tggagatcaa acggactgtg gctgcacat ctgtcttcat cttcccgcca	360
tctgatgagc agttgaaatc tggaactgcc tctgttgtgt gcctgctgaa taacttctat	420
cccagagagg ccaaagtaca gtggaagggt gataacgccc tccaatcggg taactcccag	480
gagagtgtca cagagcagga cagcaaggac agcacctaca gcctcagcag caccctgacg	540
ctgagcaaag cagactacga gaaacacaaa gtctacgcct gcgaagtcac ccatcagggc	600
ctgagctcgc ccgtcacaaa gagcttcaac aggggagagt gc	642

<210> 408
 <211> 642
 <212> DNA
 <213> Artificial

<220>
 <223> Miscellaneous construct

<400> 408	
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc	60
atcacttgca aggccagtca ggatgtgcac actgctgtag cctgggtatca gcagaaacca	120
gggaaagccc ctaagctcct gatctattgg gcatccaccc ggtggactgg agtcccatca	180
aggttcagt gcatggatc tgggacagat ttcactctca ccatcagcag tctgcaacct	240
gaagattttg caacttacta ctgtcagcaa tatagcgatt atccgtggac gttcggcgga	300
gggaccaagg tggagatcaa acggactgtg gctgcacat ctgtcttcat cttcccgcca	360
tctgatgagc agttgaaatc tggaactgcc tctgttgtgt gcctgctgaa taacttctat	420
cccagagagg ccaaagtaca gtggaagggt gataacgccc tccaatcggg taactcccag	480
gagagtgtca cagagcagga cagcaaggac agcacctaca gcctcagcag caccctgacg	540
ctgagcaaag cagactacga gaaacacaaa gtctacgcct gcgaagtcac ccatcagggc	600
ctgagctcgc ccgtcacaaa gagcttcaac aggggagagt gc	642

eolf-seql.txt

<210> 409
 <211> 639
 <212> DNA
 <213> Artificial

<220>
 <223> Miscellaneous construct

<400> 409
 gaaattgtgt tgacacagtc tccagccacc ctgtctttgt ctccagggga aagagccacc 60
 ctctcctgca gtgccagctc aagtgttaagt tacatccact ggtaccaaca gaaacctggc 120
 caggctccca ggctcctcat ctatagcaca tccgagctgg cttctggcat cccagccagg 180
 ttcagtggca gtgggtcttg gacagacttc actctcacca tcagcagcct agagcctgaa 240
 gattttgcag tttattactg tcagcagctt agtcatctcc cgctcacgtt cggcggaggg 300
 accaaggtgg agatcaaacg aactgtggct gcaccatctg tcttcatctt cccgccatct 360
 gatgagcagt tgaaatctgg aactgcctct gttgtgtgcc tgctgaataa cttctatccc 420
 agagaggcca aagtacagtg gaaggtggat aacgccctcc aatcgggtaa ctcccaggag 480
 agtgtcacag agcaggacag caaggacagc acctacagcc tcagcagcac cctgacgctg 540
 agcaaagcag actacgagaa acacaaagtc tacgcctgcg aagtcaccca tcagggcctg 600
 agctcgcccg tcacaaagag cttcaacagg ggagagtgc 639

<210> 410
 <211> 118
 <212> PRT
 <213> Artificial

<220>
 <223> Miscellaneous construct

<400> 410
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30
 Phe Leu Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45
 Gly Thr Ile Tyr Pro Tyr His Asp Gly Thr Thr Tyr Ser Gln Lys Phe
 50 55 60
 Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80
 Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

eolf-seql.txt

Ala Arg Glu Glu Glu Asp Gly Gln Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Thr Val Thr Val Ser Ser
115

<210> 411
<211> 118
<212> PRT
<213> Artificial

<220>
<223> Miscellaneous construct

<400> 411

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Val Ser Gly Phe Pro Ile Lys Asp Thr
20 25 30

Phe Gln His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
35 40 45

Gly Trp Ser Asp Pro Glu Ile Gly Asp Thr Glu Tyr Ala Ser Lys Phe
50 55 60

Gln Gly Arg Val Thr Met Thr Glu Asp Thr Ser Thr Asp Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Thr Gly Asp Thr Thr Tyr Lys Phe Asp Phe Trp Gly Gln Gly Thr
100 105 110

Thr Val Thr Val Ser Ser
115

<210> 412
<211> 124
<212> PRT
<213> Artificial

<220>
<223> Miscellaneous construct

<400> 412

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Glu
1 5 10 15

Ser Leu Lys Ile Ser Cys Lys Gly Ser Asp Phe Glu Ile Lys Asp Tyr
20 25 30

eolf-seql.txt

Tyr Ile His Trp Val Arg Gln Met Pro Gly Lys Gly Leu Glu Trp Met
35 40 45

Gly Gln Ile Asp Ala Glu Asp Gly Glu Thr Glu Tyr Ala Pro Arg Phe
50 55 60

Gln Gly Gln Val Thr Ile Ser Ala Asp Lys Ser Ile Ser Thr Ala Tyr
65 70 75 80

Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met Tyr Tyr Cys
85 90 95

Ala Arg Glu Gly Tyr Tyr Tyr Asp Gly Arg Asp Tyr Trp Tyr Phe Asp
100 105 110

Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 413
<211> 107
<212> PRT
<213> Artificial

<220>
<223> Miscellaneous construct
<400> 413

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Ser Ala Ser Gln Gly Ile Gln Trp Tyr
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Tyr Thr Ser Ser Leu His Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln His Ser Lys Leu Pro Arg
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 414
<211> 107
<212> PRT
<213> Artificial

<220>

<223> Miscellaneous construct

<400> 414

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Val His Thr Ala
 20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Trp Ala Ser Thr Arg Trp Thr Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Asp Tyr Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 415

<211> 106

<212> PRT

<213> Artificial

<220>

<223> Miscellaneous construct

<400> 415

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Ser Ala Ser Ser Ser Val Ser Tyr Ile
 20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr
 35 40 45

Ser Thr Ser Glu Leu Ala Ser Gly Ile Pro Ala Arg Phe Ser Gly Ser
 50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro Glu
 65 70 75 80

Asp Phe Ala Val Tyr Tyr Cys Gln Gln Leu Ser His Leu Pro Leu Thr
 85 90 95

Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 416
 <211> 10
 <212> PRT
 <213> Artificial

<220>
 <223> Miscellaneous construct

<400> 416

Gly Tyr Thr Phe Thr Asp Tyr Phe Leu Asn
 1 5 10

<210> 417
 <211> 17
 <212> PRT
 <213> Artificial

<220>
 <223> Miscellaneous construct

<400> 417

Thr Ile Tyr Pro Tyr His Asp Gly Thr Thr Tyr Ser Gln Lys Phe Lys
 1 5 10 15

Gly

<210> 418
 <211> 9
 <212> PRT
 <213> Artificial

<220>
 <223> Miscellaneous construct

<400> 418

Glu Glu Glu Asp Gly Gln Phe Asp Tyr
 1 5

<210> 419
 <211> 11
 <212> PRT
 <213> Artificial

<220>
 <223> Miscellaneous construct

<400> 419

Ser Ala Ser Gln Gly Ile Gln Trp Tyr Leu Asn
 1 5 10

<210> 420
 <211> 7
 <212> PRT
 <213> Artificial

<220>

<223> Miscellaneous construct

<400> 420

Tyr Thr Ser Ser Leu His Ser
1 5

<210> 421

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Miscellaneous construct

<400> 421

Gln Gln His Ser Lys Leu Pro Arg Thr
1 5

<210> 422

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Miscellaneous construct

<400> 422

Gly Phe Pro Ile Lys Asp Thr Phe Gln His
1 5 10

<210> 423

<211> 17

<212> PRT

<213> Artificial

<220>

<223> Miscellaneous construct

<400> 423

Trp Ser Asp Pro Glu Ile Gly Asp Thr Glu Tyr Ala Ser Lys Phe Gln
1 5 10 15

Gly

<210> 424

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Miscellaneous construct

<400> 424

Gly Asp Thr Thr Tyr Lys Phe Asp Phe
1 5

<210> 425
 <211> 11
 <212> PRT
 <213> Artificial

<220>
 <223> Miscellaneous construct

<400> 425

Lys Ala Ser Gln Asp Val His Thr Ala Val Ala
 1 5 10

<210> 426
 <211> 7
 <212> PRT
 <213> Artificial

<220>
 <223> Miscellaneous construct

<400> 426

Trp Ala Ser Thr Arg Trp Thr
 1 5

<210> 427
 <211> 9
 <212> PRT
 <213> Artificial

<220>
 <223> Miscellaneous construct

<400> 427

Gln Gln Tyr Ser Asp Tyr Pro Trp Thr
 1 5

<210> 428
 <211> 10
 <212> PRT
 <213> Artificial

<220>
 <223> Miscellaneous construct

<400> 428

Asp Phe Glu Ile Lys Asp Tyr Tyr Ile His
 1 5 10

<210> 429
 <211> 17
 <212> PRT
 <213> Artificial

<220>
 <223> Miscellaneous construct

<400> 429

Gln Ile Asp Ala Glu Asp Gly Glu Thr Glu Tyr Ala Pro Arg Phe Gln
 1 5 10 15

Gly

<210> 430
 <211> 17
 <212> PRT
 <213> Artificial

<220>
 <223> Miscellaneous construct

<400> 430

Gln Ile Asp Ala Glu Asp Gly Glu Thr Glu Tyr Ala Pro Arg Phe Gln
 1 5 10 15

Gly

<210> 431
 <211> 17
 <212> PRT
 <213> Artificial

<220>
 <223> Miscellaneous construct

<400> 431

Gln Ile Asp Ala Glu Asp Gly Glu Thr Glu Tyr Ala Pro Arg Phe Gln
 1 5 10 15

Gly

<210> 432
 <211> 7
 <212> PRT
 <213> Artificial

<220>
 <223> Miscellaneous construct

<400> 432

Ser Thr Ser Glu Leu Ala Ser
 1 5

<210> 433
 <211> 9
 <212> PRT
 <213> Artificial

<220>
 <223> Miscellaneous construct

<400> 433

Gln Gln Leu Ser His Leu Pro Leu Thr
 1 5

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<210> 434
 <211> 322
 <212> PRT
 <213> Artificial

<220>
 <223> Miscellaneous construct

<400> 434

Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu
 1 5 10 15

Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro
 20 25 30

Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr
 35 40 45

Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val
 50 55 60

Val Thr Val Pro Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn
 65 70 75 80

Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser
 85 90 95

Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly
 100 105 110

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
 115 120 125

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln
 130 135 140

Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val
 145 150 155 160

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr
 165 170 175

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
 180 185 190

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile
 195 200 205

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
 210 215 220

eof-seql.txt

Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser
225 230 235 240

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
245 250 255

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
260 265 270

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val
275 280 285

Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met
290 295 300

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
305 310 315 320

Leu Gly

<210> 435
<211> 970
<212> DNA
<213> Artificial

<220>
<223> Miscellaneous construct

<400> 435
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ctgggctgcc tggtaagga ctacttcccc gaaccggtga cgggtgctgt gaactcaggc 120
gccctgacca gcggcgtgca caccttcccc gctgtcctac agtcctcagg actctactcc 180
gctcagcagc gtggtgaccg tgccctccag cagcttgggc acgaagacct acacctgcaa 240
cgtagatcac aagcccagca acaccaaggt ggacaagaga gttgagtcca aatatggtcc 300
cccatgccc cctgcccag cacctgagtt cctgggggga ccatcagttc tcctgttccc 360
cccaaaacc aaggacactc tcatgatctc ccggaccctt gaggtcacgt gcgtggtggt 420
ggacgtgagc caggaagacc ccgaggtcca gttcaactgg tacgtggatg gcgtggaggt 480
gcataatgcc aagacaaagc cgcgggagga gcagttcaac agcacgtacc gtgtggtcag 540
cgtcctcacc gtctgcacc aggactggct gaacggcaag gagtacaagt gcaagggtctc 600
caacaaaggc ctcccgtcct ccatcgagaa aaccatctcc aaagccaaag ggcagccccg 660
agagccacag gtgtacacc tgccccatc ccaggaggag atgaccaaga accaggtcag 720
cctgacctgc ctggtcaaag gcttctaccc cagcgacatc gccgtggagt gggaaagcaa 780
tgggcagccg gagaacaact acaagaccac gcctcccgtg ctggactccg acggctcctt 840
cttcctctac agcaggctaa ccgtggacaa gagcaggtgg caggagggga atgtcttctc 900
atgctccgtg atgcatgagg ctctgcacaa ccactacaca cagaagagcc tctccctgtc 960

tctgggttga

970

<210> 436
 <211> 444
 <212> PRT
 <213> Artificial

<220>
 <223> Miscellaneous construct

<400> 436

Glu Val Gln Leu Gln Gln Ser Val Ala Glu Leu Val Arg Pro Gly Ala
 1 5 10 15

Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Asn Ile Lys Ser Thr
 20 25 30

Phe Met His Trp Val Lys Gln Arg Pro Asp Gln Gly Leu Glu Trp Ile
 35 40 45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Thr Glu Tyr Ala Ser Lys Phe
 50 55 60

Gln Gly Lys Ala Thr Met Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr
 65 70 75 80

Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Thr Thr Gly Glu Ser Asn Tyr Asp Phe Asp Phe Trp Gly Leu Gly Thr
 100 105 110

Thr Leu Thr Val Ser Ser Ala Lys Thr Thr Pro Pro Ser Val Tyr Pro
 115 120 125

Leu Ala Pro Gly Thr Ala Leu Lys Ser Asn Ser Met Val Thr Leu Gly
 130 135 140

Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val Thr Val Thr Trp Asn
 145 150 155 160

Ser Gly Ala Leu Ser Ser Gly Val His Thr Phe Pro Ala Val Leu Gln
 165 170 175

Ser Gly Leu Tyr Thr Leu Thr Ser Ser Val Thr Val Pro Ser Ser Thr
 180 185 190

Trp Pro Ser Gln Thr Val Thr Cys Asn Val Ala His Pro Ala Ser Ser
 195 200 205

Thr Lys Val Asp Lys Lys Ile Val Pro Arg Asn Cys Gly Gly Asp Cys
 210 215 220

eolf-seql.txt

Lys Pro Cys Ile Cys Thr Gly Ser Glu Val Ser Ser Val Phe Ile Phe
225 230 235 240

Pro Pro Lys Pro Lys Asp Val Leu Thr Ile Thr Leu Thr Pro Lys Val
245 250 255

Thr Cys Val Val Val Asp Ile Ser Gln Asp Asp Pro Glu Val His Phe
260 265 270

Ser Trp Phe Val Asp Asp Val Glu Val His Thr Ala Gln Thr Arg Pro
275 280 285

Pro Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser Val Ser Glu Leu Pro
290 295 300

Ile Leu His Gln Asp Trp Leu Asn Gly Arg Thr Phe Arg Cys Lys Val
305 310 315 320

Thr Ser Ala Ala Phe Pro Ser Pro Ile Glu Lys Thr Ile Ser Lys Pro
325 330 335

Glu Gly Arg Thr Gln Val Pro His Val Tyr Thr Met Ser Pro Thr Lys
340 345 350

Glu Glu Met Thr Gln Asn Glu Val Ser Ile Thr Cys Met Val Lys Gly
355 360 365

Phe Tyr Pro Pro Asp Ile Tyr Val Glu Trp Gln Met Asn Gly Gln Pro
370 375 380

Gln Glu Asn Tyr Lys Asn Thr Pro Pro Thr Met Asp Thr Asp Gly Ser
385 390 395 400

Tyr Phe Leu Tyr Ser Lys Leu Asn Val Lys Lys Glu Lys Trp Gln Gln
405 410 415

Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu Gly Leu His Asn His
420 425 430

His Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys
435 440

<210> 437
<211> 214
<212> PRT
<213> Artificial

<220>
<223> Miscellaneous construct

<400> 437

eof-seql.txt

Asp Ile Val Met Thr Gln Ser His Lys Phe Met Ser Thr Ser Val Gly
1 5 10 15

Asp Arg Val Ser Ile Thr Cys Lys Ala Ser Gln Asp Val Ser Thr Ala
20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile
35 40 45

Tyr Trp Ala Ser Thr Arg His Thr Gly Val Pro Asp Arg Phe Thr Gly
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Asp Val Gln Ser
65 70 75 80

Glu Asp Leu Ala Asp Tyr Phe Cys Gln Gln Tyr Ser Asn Tyr Pro Trp
85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala Asp Ala Ala
100 105 110

Pro Thr Val Ser Ile Phe Pro Pro Ser Thr Glu Gln Leu Ala Thr Gly
115 120 125

Gly Ala Ser Val Val Cys Leu Met Asn Asn Phe Tyr Pro Arg Asp Ile
130 135 140

Ser Val Lys Trp Lys Ile Asp Gly Thr Glu Arg Arg Asp Gly Val Leu
145 150 155 160

Asp Ser Val Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met Ser
165 170 175

Ser Thr Leu Ser Leu Ser Lys Ala Asp Tyr Glu Ser His Asn Leu Tyr
180 185 190

Thr Cys Glu Val Val His Lys Thr Ser Ser Ser Pro Val Val Lys Ser
195 200 205

Phe Asn Arg Asn Glu Cys
210

<210> 438
<211> 450
<212> PRT
<213> Artificial

<220>
<223> Miscellaneous construct

<400> 438

Glu Val Gln Leu Gln Gln Ser Gly Ala Glu His Val Lys Pro Gly Ala
1 5 10 15

eolf-seql.txt

Ser Val Lys Leu Ser Cys Thr Ala Ser Asp Phe Asn Ile Lys Asp Tyr
20 25 30

Tyr Ile His Trp Val Lys Gln Arg Thr Ala Gln Gly Leu Glu Trp Ile
35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Glu Thr Glu Tyr Ala Pro Arg Phe
50 55 60

Gln Gly Lys Ala Thr Ile Ile Ala Asp Thr Ser Ser Asn Thr Ala Tyr
65 70 75 80

Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Gly Tyr Tyr Tyr Asp Ser Arg Asp Tyr Trp Tyr Phe Asp
100 105 110

Val Trp Gly Thr Gly Thr Thr Val Thr Val Ser Ser Ala Lys Thr Thr
115 120 125

Pro Pro Ser Val Tyr Pro Leu Ala Pro Gly Thr Ala Leu Lys Ser Asn
130 135 140

Ser Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro
145 150 155 160

Val Thr Val Thr Trp Asn Ser Gly Ala Leu Ser Ser Gly Val His Thr
165 170 175

Phe Pro Ala Val Leu Gln Ser Gly Leu Tyr Thr Leu Thr Ser Ser Val
180 185 190

Thr Val Pro Ser Ser Thr Trp Pro Ser Gln Thr Val Thr Cys Asn Val
195 200 205

Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val Pro Arg
210 215 220

Asn Cys Gly Gly Asp Cys Lys Pro Cys Ile Cys Thr Gly Ser Glu Val
225 230 235 240

Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr Ile
245 250 255

Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Gln Asp
260 265 270

Asp Pro Glu Val His Phe Ser Trp Phe Val Asp Asp Val Glu Val His
275 280 285

eolf-seql.txt

Thr Ala Gln Thr Arg Pro Pro Glu Glu Gln Phe Asn Ser Thr Phe Arg
290 295 300

Ser Val Ser Glu Leu Pro Ile Leu His Gln Asp Trp Leu Asn Gly Arg
305 310 315 320

Thr Phe Arg Cys Lys Val Thr Ser Ala Ala Phe Pro Ser Pro Ile Glu
325 330 335

Lys Thr Ile Ser Lys Pro Glu Gly Arg Thr Gln Val Pro His Val Tyr
340 345 350

Thr Met Ser Pro Thr Lys Glu Glu Met Thr Gln Asn Glu Val Ser Ile
355 360 365

Thr Cys Met Val Lys Gly Phe Tyr Pro Pro Asp Ile Tyr Val Glu Trp
370 375 380

Gln Met Asn Gly Gln Pro Gln Glu Asn Tyr Lys Asn Thr Pro Pro Thr
385 390 395 400

Met Asp Thr Asp Gly Ser Tyr Phe Leu Tyr Ser Lys Leu Asn Val Lys
405 410 415

Lys Glu Lys Trp Gln Gln Gly Asn Thr Phe Thr Cys Ser Val Leu His
420 425 430

Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser Pro
435 440 445

Gly Lys
450

<210> 439
<211> 213
<212> PRT
<213> Artificial

<220>
<223> Miscellaneous construct

<400> 439

Glu Ile Val Leu Thr Gln Ser Pro Ala Leu Met Ser Ala Ser Pro Gly
1 5 10 15

Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
20 25 30

His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys Leu Trp Ile Tyr
35 40 45

eofl-seql.txt

Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu Ala Glu
65 70 75 80

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr
85 90 95

Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Arg Ala Asp Ala Ala Pro
100 105 110

Thr Val Ser Ile Phe Pro Pro Ser Thr Glu Gln Leu Ala Thr Gly Gly
115 120 125

Ala Ser Val Val Cys Leu Met Asn Asn Phe Tyr Pro Arg Asp Ile Ser
130 135 140

Val Lys Trp Lys Ile Asp Gly Thr Glu Arg Arg Asp Gly Val Leu Asp
145 150 155 160

Ser Val Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met Ser Ser
165 170 175

Thr Leu Ser Leu Ser Lys Ala Asp Tyr Glu Ser His Asn Leu Tyr Thr
180 185 190

Cys Glu Val Val His Lys Thr Ser Ser Ser Pro Val Val Lys Ser Phe
195 200 205

Asn Arg Asn Glu Cys
210

<210> 440
<211> 10
<212> PRT
<213> Homo sapiens

<400> 440

Gly Phe Thr Phe Ser Ser Tyr Val Met Asn
1 5 10

<210> 441
<211> 10
<212> PRT
<213> Homo sapiens

<400> 441

Gly Phe Thr Phe Arg Ser His Trp Leu Ser
1 5 10

<210> 442
<211> 10

<212> PRT
<213> Homo sapiens

<400> 442

Gly Phe Thr Phe Ser Ser Tyr Val Met Asn
1 5 10

<210> 443
<211> 10
<212> PRT
<213> Homo sapiens

<400> 443

Gly Phe Thr Phe Arg Ser His Trp Leu Ser
1 5 10

<210> 444
<211> 10
<212> PRT
<213> Homo sapiens

<400> 444

Gly Phe Thr Phe Arg Ser His Trp Leu Ser
1 5 10

<210> 445
<211> 10
<212> PRT
<213> Homo sapiens

<400> 445

Gly Phe Thr Phe Arg Ser His Trp Leu Ser
1 5 10

<210> 446
<211> 10
<212> PRT
<213> Homo sapiens

<400> 446

Gly Phe Thr Phe Arg Ser His Trp Leu Ser
1 5 10

<210> 447
<211> 10
<212> PRT
<213> Homo sapiens

<400> 447

Gly Phe Thr Phe Arg Ser His Trp Leu Ser
1 5 10

<210> 448
<211> 10
<212> PRT
<213> Homo sapiens

eolf-seql.txt

<400> 448

Gly Phe Thr Phe Arg Ser His Trp Leu Ser
1 5 10

<210> 449

<211> 10

<212> PRT

<213> Homo sapiens

<400> 449

Gly Phe Thr Phe Arg Ser His Trp Leu Ser
1 5 10

<210> 450

<211> 10

<212> PRT

<213> Homo sapiens

<400> 450

Gly Phe Thr Phe Arg Ser His Trp Leu Ser
1 5 10

<210> 451

<211> 20

<212> PRT

<213> Homo sapiens

<400> 451

Trp Val Ser Phe Ile Ser Gly Asp Ser Ser Asn Thr Tyr Tyr Ala Asp
1 5 10 15

Ser Val Lys Gly
20

<210> 452

<211> 20

<212> PRT

<213> Homo sapiens

<400> 452

Trp Val Ser Asn Ile Asn Tyr Asp Gly Ser Ser Thr Tyr Tyr Ala Asp
1 5 10 15

Ser Val Lys Gly
20

<210> 453

<211> 20

<212> PRT

<213> Homo sapiens

<400> 453

Trp Val Ser Phe Ile Ser Gly Asp Ser Ser Asn Thr Tyr Tyr Ala Asp
1 5 10 15

Ser Val Lys Gly
20

<210> 454
<211> 20
<212> PRT
<213> Homo sapiens

<400> 454

Trp Val Ser Asn Ile Asn Tyr Asp Gly Ser Ser Thr Tyr Tyr Ala Asp
1 5 10 15

Ser Val Lys Gly
20

<210> 455
<211> 19
<212> PRT
<213> Homo sapiens

<400> 455

Trp Val Ser Val Thr Gly Val His Gly Asp Thr Tyr Tyr Ala Asp Ser
1 5 10 15

Val Lys Gly

<210> 456
<211> 19
<212> PRT
<213> Homo sapiens

<400> 456

Trp Val Ser Val Ile Gly Asn Trp Gly Asp Thr Tyr Tyr Ala Asp Ser
1 5 10 15

Val Lys Gly

<210> 457
<211> 19
<212> PRT
<213> Homo sapiens

<400> 457

Trp Val Ser Val Thr Thr His Gln Gly Tyr Thr Tyr Tyr Ala Asp Ser
1 5 10 15

Val Lys Gly

<210> 458
<211> 19

eolf-seql.txt

<212> PRT
<213> Homo sapiens

<400> 458

Trp Val Ser Ala Thr Asn Arg Tyr Gly Tyr Thr Tyr Tyr Ala Asp Ser
1 5 10 15

Val Lys Gly

<210> 459
<211> 20
<212> PRT
<213> Homo sapiens

<400> 459

Trp Val Ser Asn Ile Asn Tyr Asp Gly Ser Ser Thr Tyr Tyr Ala Asp
1 5 10 15

Ser Val Lys Gly
20

<210> 460
<211> 19
<212> PRT
<213> Homo sapiens

<400> 460

Trp Val Ser Val Ile Thr Pro Tyr Gly Asp Thr Tyr Tyr Ala Asp Ser
1 5 10 15

Val Lys Gly

<210> 461
<211> 19
<212> PRT
<213> Homo sapiens

<400> 461

Trp Val Ser Val Ile Thr Pro Tyr Gly Asp Thr Tyr Tyr Ala Asp Ser
1 5 10 15

Val Lys Gly

<210> 462
<211> 15
<212> PRT
<213> Homo sapiens

<400> 462

Thr Phe Met His Gly His Leu Gly Gly Gly Leu Ser Met Asp Phe
1 5 10 15

<210> 463
 <211> 8
 <212> PRT
 <213> Homo sapiens

<400> 463

Asp Thr Tyr Leu His Phe Asp Tyr
 1 5

<210> 464
 <211> 15
 <212> PRT
 <213> Homo sapiens

<400> 464

Thr Phe Met His Gly His Leu Gly Gly Gly Leu Ser Met Asp Phe
 1 5 10 15

<210> 465
 <211> 8
 <212> PRT
 <213> Homo sapiens

<400> 465

Asp Thr Tyr Leu His Phe Asp Tyr
 1 5

<210> 466
 <211> 8
 <212> PRT
 <213> Homo sapiens

<400> 466

Asp Thr Tyr Leu His Phe Asp Tyr
 1 5

<210> 467
 <211> 8
 <212> PRT
 <213> Homo sapiens

<400> 467

Asp Thr Tyr Leu His Phe Asp Tyr
 1 5

<210> 468
 <211> 8
 <212> PRT
 <213> Homo sapiens

<400> 468

Asp Thr Tyr Leu His Phe Asp Tyr
 1 5

<210> 469

<211> 8
 <212> PRT
 <213> Homo sapiens

<400> 469

Asp Thr Tyr Leu His Phe Asp Tyr
 1 5

<210> 470
 <211> 8
 <212> PRT
 <213> Homo sapiens

<400> 470

Asp Thr Tyr Leu His Phe Asp Tyr
 1 5

<210> 471
 <211> 8
 <212> PRT
 <213> Homo sapiens

<400> 471

Asp Thr Tyr Leu His Phe Asp Tyr
 1 5

<210> 472
 <211> 8
 <212> PRT
 <213> Homo sapiens

<400> 472

Asp Thr Tyr Leu His Phe Asp Tyr
 1 5

<210> 473
 <211> 11
 <212> PRT
 <213> Homo sapiens

<400> 473

Ser Gly Asp Asn Ile Gly Ser Phe Tyr Val His
 1 5 10

<210> 474
 <211> 20
 <212> PRT
 <213> Homo sapiens

<400> 474

Trp Val Ser Asn Ile Asn Tyr Asp Gly Ser Ser Thr Tyr Tyr Ala Asp
 1 5 10 15

Ser Val Lys Gly
 20

eolf-seql.txt

<210> 475
 <211> 20
 <212> PRT
 <213> Homo sapiens

<400> 475

Trp Val Ser Asn Ile Asn Tyr Asp Gly Ser Ser Thr Tyr Tyr Ala Asp
 1 5 10 15

Ser Val Lys Gly
 20

<210> 476
 <211> 11
 <212> PRT
 <213> Homo sapiens

<400> 476

Ser Gly Asp Asn Ile Gly Ser Phe Tyr Val His
 1 5 10

<210> 477
 <211> 14
 <212> PRT
 <213> Homo sapiens

<400> 477

Thr Gly Thr Ser Ser Asp Val Gly Asp Ile Asn Asp Val Ser
 1 5 10

<210> 478
 <211> 14
 <212> PRT
 <213> Homo sapiens

<400> 478

Thr Gly Thr Ser Ser Asp Val Gly Asp Ile Asn Asp Val Ser
 1 5 10

<210> 479
 <211> 14
 <212> PRT
 <213> Homo sapiens

<400> 479

Thr Gly Thr Ser Ser Asp Val Gly Asp Ile Asn Asp Val Ser
 1 5 10

<210> 480
 <211> 14
 <212> PRT
 <213> Homo sapiens

<400> 480

Thr Gly Thr Ser Ser Asp Val Gly Asp Ile Asn Asp Val Ser

1

5

10

<210> 481
 <211> 14
 <212> PRT
 <213> Homo sapiens

<400> 481

Thr Gly Thr Ser Ser Asp Val Gly Asp Ile Asn Asp Val Ser
 1 5 10

<210> 482
 <211> 14
 <212> PRT
 <213> Homo sapiens

<400> 482

Thr Gly Thr Ser Ser Asp Val Gly Asp Ile Asn Asp Val Ser
 1 5 10

<210> 483
 <211> 14
 <212> PRT
 <213> Homo sapiens

<400> 483

Thr Gly Thr Ser Ser Asp Val Gly Asp Ile Asn Asp Val Ser
 1 5 10

<210> 484
 <211> 11
 <212> PRT
 <213> Homo sapiens

<400> 484

Leu Val Ile Tyr Asp Asp Asn Asn Arg Pro Ser
 1 5 10

<210> 485
 <211> 11
 <212> PRT
 <213> Homo sapiens

<400> 485

Leu Met Ile Tyr Asp Val Asn Asn Arg Pro Ser
 1 5 10

<210> 486
 <211> 11
 <212> PRT
 <213> Homo sapiens

<400> 486

Leu Val Ile Tyr Asp Asp Asn Asn Arg Pro Ser
 1 5 10

eolf-seql.txt

<210> 487
 <211> 11
 <212> PRT
 <213> Homo sapiens

<400> 487

Leu	Met	Ile	Tyr	Asp	Val	Asn	Asn	Arg	Pro	Ser
1				5					10	

<210> 488
 <211> 11
 <212> PRT
 <213> Homo sapiens

<400> 488

Leu	Met	Ile	Tyr	Asp	Val	Asn	Asn	Arg	Pro	Ser
1				5					10	

<210> 489
 <211> 11
 <212> PRT
 <213> Homo sapiens

<400> 489

Leu	Met	Ile	Tyr	Asp	Val	Asn	Asn	Arg	Pro	Ser
1				5					10	

<210> 490
 <211> 11
 <212> PRT
 <213> Homo sapiens

<400> 490

Leu	Met	Ile	Tyr	Asp	Val	Asn	Asn	Arg	Pro	Ser
1				5					10	

<210> 491
 <211> 11
 <212> PRT
 <213> Homo sapiens

<400> 491

Leu	Met	Ile	Tyr	Asp	Val	Asn	Asn	Arg	Pro	Ser
1				5					10	

<210> 492
 <211> 11
 <212> PRT
 <213> Homo sapiens

<400> 492

Leu	Met	Ile	Tyr	Asp	Val	Asn	Asn	Arg	Pro	Ser
1				5					10	

<210> 493

<211> 11
 <212> PRT
 <213> Homo sapiens

<400> 493

Leu Met Ile Tyr Asp Val Asn Asn Arg Pro Ser
 1 5 10

<210> 494
 <211> 11
 <212> PRT
 <213> Homo sapiens

<400> 494

Leu Met Ile Tyr Asp Val Asn Asn Arg Pro Ser
 1 5 10

<210> 495
 <211> 10
 <212> PRT
 <213> Homo sapiens

<400> 495

Gly Ser Trp Ala Gly Ser Ser Gly Ser Tyr
 1 5 10

<210> 496
 <211> 10
 <212> PRT
 <213> Homo sapiens

<400> 496

Ser Ser Tyr Gly Glu Ser Leu Thr Ser Tyr
 1 5 10

<210> 497
 <211> 10
 <212> PRT
 <213> Homo sapiens

<400> 497

Ala Ser Trp Thr Gly Val Glu Pro Asp Tyr
 1 5 10

<210> 498
 <211> 10
 <212> PRT
 <213> Homo sapiens

<400> 498

Gln Ser Tyr Ala Gly Ser Tyr Leu Ser Glu
 1 5 10

<210> 499
 <211> 10
 <212> PRT

<213> Homo sapiens

<400> 499

Ser Ser Tyr Gly Glu Ser Leu Thr Ser Tyr
1 5 10

<210> 500

<211> 10

<212> PRT

<213> Homo sapiens

<400> 500

Ser Ser Tyr Gly Glu Ser Leu Thr Ser Tyr
1 5 10

<210> 501

<211> 10

<212> PRT

<213> Homo sapiens

<400> 501

Ser Ser Tyr Gly Glu Ser Leu Thr Ser Tyr
1 5 10

<210> 502

<211> 10

<212> PRT

<213> Homo sapiens

<400> 502

Ser Ser Tyr Gly Glu Ser Leu Thr Ser Tyr
1 5 10

<210> 503

<211> 10

<212> PRT

<213> Homo sapiens

<400> 503

Ser Thr Tyr Asp Gly Pro Gly Leu Ser Glu
1 5 10

<210> 504

<211> 10

<212> PRT

<213> Homo sapiens

<400> 504

Ser Ser Tyr Gly Glu Ser Leu Thr Ser Tyr
1 5 10

<210> 505

<211> 10

<212> PRT

<213> Homo sapiens

eolf-seql.txt

<400> 505

Ser Ser Tyr Gly Glu Ser Leu Thr Ser Tyr
1 5 10

<210> 506

<211> 124

<212> PRT

<213> Homo sapiens

<400> 506

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Val Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Phe Ile Ser Gly Asp Ser Ser Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Phe Met His Gly His Leu Gly Gly Gly Leu Ser Met Asp
100 105 110

Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 507

<211> 117

<212> PRT

<213> Homo sapiens

<400> 507

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Ser His
20 25 30

Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Asn Ile Asn Tyr Asp Gly Ser Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

eolf-seql.txt

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 508
<211> 124
<212> PRT
<213> Homo sapiens

<400> 508

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Val Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Phe Ile Ser Gly Asp Ser Ser Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Phe Met His Gly His Leu Gly Gly Gly Leu Ser Met Asp
100 105 110

Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 509
<211> 117
<212> PRT
<213> Homo sapiens

<400> 509

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Ser His
20 25 30

eolf-seql.txt

Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Asn Ile Asn Tyr Asp Gly Ser Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 510
<211> 116
<212> PRT
<213> Homo sapiens

<400> 510

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Ser His
20 25 30

Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Val Thr Gly Val His Gly Asp Thr Tyr Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 511
<211> 116
<212> PRT

eolf-seql.txt

<213> Homo sapiens

<400> 511

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Ser His
20 25 30

Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Val Ile Gly Asn Trp Gly Asp Thr Tyr Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 512

<211> 116

<212> PRT

<213> Homo sapiens

<400> 512

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Ser His
20 25 30

Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Val Thr Thr His Gln Gly Tyr Thr Tyr Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val

100

105

110

Thr Val Ser Ser
115

<210> 513
<211> 116
<212> PRT
<213> Homo sapiens

<400> 513

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Ser His
20 25 30

Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Thr Asn Arg Tyr Gly Tyr Thr Tyr Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 514
<211> 117
<212> PRT
<213> Homo sapiens

<400> 514

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Ser His
20 25 30

Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Asn Ile Asn Tyr Asp Gly Ser Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

eolf-seql.txt

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 515
<211> 116
<212> PRT
<213> Homo sapiens

<400> 515

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Ser His
20 25 30

Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Val Ile Thr Pro Tyr Gly Asp Thr Tyr Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 516
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<212> PRT
<213> Homo sapiens

<400> 516

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Ser His
Page 298

20

25

30

Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Val Ile Thr Pro Tyr Gly Asp Thr Tyr Tyr Ala Asp Ser Val Lys
 50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
 65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
 85 90 95

Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 517
 <211> 110
 <212> PRT
 <213> Homo sapiens

<400> 517

Asp Ile Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro Gly Gln
 1 5 10 15

Thr Ala Arg Ile Ser Cys Ser Gly Asp Asn Ile Gly Ser Phe Tyr Val
 20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr
 35 40 45

Asp Asp Asn Asn Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
 50 55 60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Thr Gln Ala Glu
 65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Gly Ser Trp Ala Gly Ser Ser Gly Ser
 85 90 95

Tyr Val Phe Gly Gly Arg Thr Lys Leu Thr Val Leu Gly Gln
 100 105 110

<210> 518
 <211> 113
 <212> PRT
 <213> Homo sapiens

<400> 518

eolf-seql.txt

Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
1 5 10 15

Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Asp Ile
20 25 30

Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
35 40 45

Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val Ser Asn Arg Phe
50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Tyr Gly Glu Ser
85 90 95

Leu Thr Ser Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105 110

Gln

<210> 519
<211> 110
<212> PRT
<213> Homo sapiens
<400> 519

Asp Ile Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro Gly Gln
1 5 10 15

Thr Ala Arg Ile Ser Cys Ser Gly Asp Asn Ile Gly Ser Phe Tyr Val
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr
35 40 45

Asp Asp Asn Asn Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
50 55 60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Thr Gln Ala Glu
65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Trp Thr Gly Val Glu Pro Asp
85 90 95

Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gln
100 105 110

eolf-seql.txt

<210> 520
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 <212> PRT
 <213> Homo sapiens

<400> 520

Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
 1 5 10 15

Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Asp Ile
 20 25 30

Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
 35 40 45

Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val Ser Asn Arg Phe
 50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
 65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Ala Gly Ser
 85 90 95

Tyr Leu Ser Glu Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
 100 105 110

Gln

<210> 521
 <211> 113
 <212> PRT
 <213> Homo sapiens

<400> 521

Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
 1 5 10 15

Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Asp Ile
 20 25 30

Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
 35 40 45

Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val Ser Asn Arg Phe
 50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
 65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Tyr Gly Glu Ser
 85 90 95

eolf-seql.txt

Leu Thr Ser Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105 110

Gln

<210> 522
<211> 113
<212> PRT
<213> Homo sapiens

<400> 522

Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
1 5 10 15

Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Asp Ile
20 25 30

Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
35 40 45

Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val Ser Asn Arg Phe
50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Tyr Gly Glu Ser
85 90 95

Leu Thr Ser Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105 110

Gln

<210> 523
<211> 113
<212> PRT
<213> Homo sapiens

<400> 523

Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
1 5 10 15

Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Asp Ile
20 25 30

Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
35 40 45

eolf-seql.txt

Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val Ser Asn Arg Phe
50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Tyr Gly Glu Ser
85 90 95

Leu Thr Ser Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105 110

Gln

<210> 524
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<212> PRT
<213> Homo sapiens

<400> 524

Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
1 5 10 15

Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Asp Ile
20 25 30

Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
35 40 45

Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val Ser Asn Arg Phe
50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Tyr Gly Glu Ser
85 90 95

Leu Thr Ser Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105 110

Gln

<210> 525
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<213> Homo sapiens

<400> 525

Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
1 5 10 15

eolf-seql.txt

Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Asp Ile
20 25 30

Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
35 40 45

Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val Ser Asn Arg Phe
50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Thr Tyr Asp Gly Pro
85 90 95

Gly Leu Ser Glu Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105 110

Gln

<210> 526
<211> 113
<212> PRT
<213> Homo sapiens
<400> 526

Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
1 5 10 15

Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Asp Ile
20 25 30

Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
35 40 45

Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val Ser Asn Arg Phe
50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Tyr Gly Glu Ser
85 90 95

Leu Thr Ser Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105 110

Gln

eolf-seql.txt

<210> 527
 <211> 113
 <212> PRT
 <213> Homo sapiens

<400> 527

Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
 1 5 10 15

Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Asp Ile
 20 25 30

Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
 35 40 45

Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val Ser Asn Arg Phe
 50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
 65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Thr Tyr Asp Gly Pro
 85 90 95

Gly Leu Ser Glu Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
 100 105 110

Gln

<210> 528
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 <212> DNA
 <213> Homo sapiens

<400> 528

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 cctgggaagg gtctcgagt ggtgagcttt atctctggtg attctagcaa tacctattat 180
 gcggatagcg tgaaaggccg ttttaccatt tcacgtgata attcgaaaaa caccctgtat 240
 ctgcaaatga acagcctgcg tgcggaagat acggccgtgt attattgcgc gcgtactttt 300
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 <211> 350
 <212> DNA
 <213> Homo sapiens

<400> 529

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eolf-seql.txt

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ctgggaaggg tctcgagtgg gtgagcaata tcaattatga tggtagctct acctattatg	180
cggatagcgt gaaaggccgt tttaccattt cacgtgataa ttcgaaaaac accctgtatc	240
tgcaaatgaa cagcctgcgt gcggaagata cggccgtgta ttattgcgcg cgtgatactt	300
atcttcattt tgattattgg ggccaaggca ccctgggtgac ggtagctca	350

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 <211> 372
 <212> DNA
 <213> Homo sapiens

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cctgggaagg gtctcgagt ggtgagcttt atctctgggt attctagcaa tacctattat	180
gcggatagcg tgaaaggccg ttttaccatt tcacgtgata attcgaaaaa caccctgtat	240
ctgcaaatga acagcctgcg tgcggaagat acggccgtgt attattgcgc gcgtactttt	300
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 <212> DNA
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cctgggaagg gtctcgagt ggtgagcaat atcaattatg atggtagctc tacctattat	180
gcggatagcg tgaaaggccg ttttaccatt tcacgtgata attcgaaaaa caccctgtat	240
ctgcaaatga acagcctgcg tgcggaagat acggccgtgt attattgcgc gcgtgatact	300
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 <211> 348
 <212> DNA
 <213> Homo sapiens

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cctgggaagg gtctcgagt ggtgagcgtt actggtgttc atggtgatac ttattatgct	180
gattctgtta agggtcgttt taccatttca cgtgataatt cgaaaaacac cctgtatctg	240
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 <212> DNA
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 <212> DNA
 <213> Homo sapiens

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 <213> Homo sapiens

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 cttcattttg attattgggg ccaaggcacc ctggtgacgg ttagctca 348

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 <212> DNA
 <213> Homo sapiens

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eolf-seql.txt

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gcggatagcg	tgaaggccg	ttttaccatt	tcacgtgata	attcgaaaaa	caccctgtat	240
ctgcaaatga	acagcctg	tgcggaagat	acggccgtgt	attattgcgc	gcgtgatact	300
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gattctgtta	agggtcggtt	taccatttca cgtgataatt cgaaaaacac cctgtatctg 240
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gattctgtta	agggtcggtt	taccatttca cgtgataatt cgaaaaacac cctgtatctg 240
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 <212> DNA
 <213> Homo sapiens

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caggcgccag	ttcttgtgat	ttatgatgat aataatcgtc cctcaggcat cccggaacgc 180
tttagcggat	ccaacagcg	caacaccgcg accctgacca ttagcggcac tcaggcgga 240
gacgaagcgg	attattattg	cggttcttgg gctggttctt ctggttctta tgtgtttggc 300
ggccgcacga	agttaaccgt	tcttggccag 330

eolf-seql.txt

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<211> 339
<212> DNA
<213> Homo sapiens

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catcccgga aggcgccgaa acttatgatt tatgatgtta ataatcgccc ctcaggcgtg 180
agcaaccgtt ttagcggatc caaaagcggc aacaccgcga gcctgaccat tagcggcctg 240
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gtgtttggcg gcggcacgaa gttaaccgtt cttggccag 339

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<212> DNA
<213> Homo sapiens

<400> 541
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ttagcggat ccaacagcgg caacaccgcg accctgacca ttagcggcac tcaggcggaa 240
gacgaagcgg attattattg cgcttcttgg actggtgttg agcctgatta tgtgtttggc 300
ggcggcacga agttaaccgt tcttggccag 330

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<212> DNA
<213> Homo sapiens

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agcaaccgtt ttagcggatc caaaagcggc aacaccgcga gcctgaccat tagcggcctg 240
caagcgggaag acgaagcggg ttattattgc cagtcttatg ctggttctta tctttctgag 300
gtgtttggcg gcggcacgaa gttaaccgtt cttggccag 339

<210> 543
<211> 339
<212> DNA
<213> Homo sapiens

<400> 543
gatatcgac tgaccagcc agcttcagt agcggctcac caggtcagag cattaccatc 60
tcgtgtacgg gtactagcag cgatgttggg gatattaatg atgtgtcttg gtaccagcag 120
catcccgga aggcgccgaa acttatgatt tatgatgtta ataatcgccc ctcaggcgtg 180

eolf-seql.txt

agcaaccgtt ttagcggatc caaaagcggc aacaccgcga gcctgaccat tagcggcctg	240
caagcgggaag acgaagcgga ttattattgc tcttcttatg gtgagtctct tacttcttat	300
gtgtttggcg gcggcacgaa gttaaccgtt cttggccag	339

<210> 544
 <211> 339
 <212> DNA
 <213> Homo sapiens

<400> 544	
gatatcgcac tgaccagcc agcttcagtg agcggctcac caggtcagag cattaccatc	60
tcgtgtacgg gtactagcag cgatgttggt gatattaatg atgtgtcttg gtaccagcag	120
catcccggga aggcgccgaa acttatgatt tatgatgtta ataatcgtcc ctcaggcgtg	180
agcaaccgtt ttagcggatc caaaagcggc aacaccgcga gcctgaccat tagcggcctg	240
caagcgggaag acgaagcgga ttattattgc tcttcttatg gtgagtctct tacttcttat	300
gtgtttggcg gcggcacgaa gttaaccgtt cttggccag	339

<210> 545
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 <212> DNA
 <213> Homo sapiens

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catcccggga aggcgccgaa acttatgatt tatgatgtta ataatcgtcc ctcaggcgtg	180
agcaaccgtt ttagcggatc caaaagcggc aacaccgcga gcctgaccat tagcggcctg	240
caagcgggaag acgaagcgga ttattattgc tcttcttatg gtgagtctct tacttcttat	300
gtgtttggcg gcggcacgaa gttaaccgtt cttggccag	339

<210> 546
 <211> 339
 <212> DNA
 <213> Homo sapiens

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catcccggga aggcgccgaa acttatgatt tatgatgtta ataatcgtcc ctcaggcgtg	180
agcaaccgtt ttagcggatc caaaagcggc aacaccgcga gcctgaccat tagcggcctg	240
caagcgggaag acgaagcgga ttattattgc tcttcttatg gtgagtctct tacttcttat	300
gtgtttggcg gcggcacgaa gttaaccgtt cttggccag	339

<210> 547
 <211> 339
 <212> DNA

<213> Homo sapiens

<400> 547

gatatcgcac	tgaccagcc	agcttcagtg	agcggctcac	caggtcagag	cattaccatc	60
tcgtgtacgg	gtactagcag	cgatgttggt	gatattaatg	atgtgtcttg	gtaccagcag	120
catcccggga	aggcgccgaa	acttatgatt	tatgatgtta	ataatcgtcc	ctcaggcgtg	180
agcaaccgtt	ttagcggatc	caaaagcggc	aacaccgcga	gcctgaccat	tagcggcctg	240
caagcggaag	acgaagcgga	ttattattgc	tctacttatg	atggtcctgg	tctttctgag	300
gtgtttggcg	gcggcacgaa	gttaaccgtt	cttggccag			339

<210> 548

<211> 339

<212> DNA

<213> Homo sapiens

<400> 548

gatatcgcac	tgaccagcc	agcttcagtg	agcggctcac	caggtcagag	cattaccatc	60
tcgtgtacgg	gtactagcag	cgatgttggt	gatattaatg	atgtgtcttg	gtaccagcag	120
catcccggga	aggcgccgaa	acttatgatt	tatgatgtta	ataatcgtcc	ctcaggcgtg	180
agcaaccgtt	ttagcggatc	caaaagcggc	aacaccgcga	gcctgaccat	tagcggcctg	240
caagcggaag	acgaagcgga	ttattattgc	tcttcttatg	gtgagtctct	tacttcttat	300
gtgtttggcg	gcggcacgaa	gttaaccgtt	cttggccag			339

<210> 549

<211> 339

<212> DNA

<213> Homo sapiens

<400> 549

gatatcgcac	tgaccagcc	agcttcagtg	agcggctcac	caggtcagag	cattaccatc	60
tcgtgtacgg	gtactagcag	cgatgttggt	gatattaatg	atgtgtcttg	gtaccagcag	120
catcccggga	aggcgccgaa	acttatgatt	tatgatgtta	ataatcgtcc	ctcaggcgtg	180
agcaaccgtt	ttagcggatc	caaaagcggc	aacaccgcga	gcctgaccat	tagcggcctg	240
caagcggaag	acgaagcgga	ttattattgc	tctacttatg	atggtcctgg	tctttctgag	300
gtgtttggcg	gcggcacgaa	gttaaccgtt	cttggccag			339

<210> 550

<211> 469

<212> PRT

<213> Homo sapiens

<400> 550

Met	Ala	Trp	Val	Trp	Thr	Leu	Pro	Phe	Leu	Met	Ala	Ala	Ala	Gln	Ser
1			5					10						15	

Val	Gln	Ala	Gln	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln
			20					25					30		

eolf-seql.txt

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
35 40 45

Ser Ser Tyr Val Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
50 55 60

Glu Trp Val Ser Phe Ile Ser Gly Asp Ser Ser Asn Thr Tyr Tyr Ala
65 70 75 80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
85 90 95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
100 105 110

Tyr Tyr Cys Ala Arg Thr Phe Met His Gly His Leu Gly Gly Gly Leu
115 120 125

Ser Met Asp Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
130 135 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser
145 150 155 160

Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
165 170 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
180 185 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
195 200 205

Ser Ser Val Val Thr Val Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr
210 215 220

Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr
225 230 235 240

Val Glu Arg Lys Cys Cys Val Glu Cys Pro Pro Cys Pro Ala Pro Pro
245 250 255

Val Ala Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
260 265 270

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
275 280 285

Ser His Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
290 295 300

eolf-seql.txt

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
305 310 315 320

Thr Phe Arg Val Val Ser Val Leu Thr Val Val His Gln Asp Trp Leu
325 330 335

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ala
340 345 350

Pro Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro
355 360 365

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln
370 375 380

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
385 390 395 400

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
405 410 415

Pro Pro Met Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
420 425 430

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
435 440 445

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
450 455 460

Leu Ser Pro Gly Lys
465

<210> 551
<211> 462
<212> PRT
<213> Homo sapiens

<400> 551

Met Ala Trp Val Trp Thr Leu Pro Phe Leu Met Ala Ala Ala Gln Ser
1 5 10 15

Val Gln Ala Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
20 25 30

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
35 40 45

Arg Ser His Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
50 55 60

eolf-seql.txt

Glu Trp Val Ser Asn Ile Asn Tyr Asp Gly Ser Ser Thr Tyr Tyr Ala
65 70 75 80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
85 90 95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
100 105 110

Tyr Tyr Cys Ala Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln
115 120 125

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
130 135 140

Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala
145 150 155 160

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
165 170 175

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
180 185 190

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
195 200 205

Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His Lys
210 215 220

Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys Val
225 230 235 240

Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe
245 250 255

Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro
260 265 270

Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val
275 280 285

Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr
290 295 300

Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val
305 310 315 320

Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys
325 330 335

eofl-seql.txt

Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser
340 345 350

Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro
355 360 365

Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val
370 375 380

Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly
385 390 395 400

Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp
405 410 415

Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp
420 425 430

Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His
435 440 445

Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
450 455 460

<210> 552
<211> 469
<212> PRT
<213> Homo sapiens

<400> 552

Met Ala Trp Val Trp Thr Leu Pro Phe Leu Met Ala Ala Ala Gln Ser
1 5 10 15

Val Gln Ala Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
20 25 30

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
35 40 45

Ser Ser Tyr Val Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
50 55 60

Glu Trp Val Ser Phe Ile Ser Gly Asp Ser Ser Asn Thr Tyr Tyr Ala
65 70 75 80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
85 90 95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
100 105 110

Tyr Tyr Cys Ala Arg Thr Phe Met His Gly His Leu Gly Gly Gly Leu
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115

120

125

Ser Met Asp Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
 130 135 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser
 145 150 155 160

Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
 165 170 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
 180 185 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
 195 200 205

Ser Ser Val Val Thr Val Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr
 210 215 220

Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr
 225 230 235 240

Val Glu Arg Lys Cys Cys Val Glu Cys Pro Pro Cys Pro Ala Pro Pro
 245 250 255

Val Ala Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 260 265 270

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 275 280 285

Ser His Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
 290 295 300

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
 305 310 315 320

Thr Phe Arg Val Val Ser Val Leu Thr Val Val His Gln Asp Trp Leu
 325 330 335

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ala
 340 345 350

Pro Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro
 355 360 365

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln
 370 375 380

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
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eolf-seql.txt

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385                               390                               395                               400

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
      405                               410                               415

Pro Pro Met Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
      420                               425                               430

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
      435                               440                               445

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
      450                               455                               460

Leu Ser Pro Gly Lys
465

<210> 553
<211> 462
<212> PRT
<213> Homo sapiens

<400> 553

Met Ala Trp Val Trp Thr Leu Pro Phe Leu Met Ala Ala Ala Gln Ser
1      5      10      15

Val Gln Ala Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
      20      25      30

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
      35      40      45

Arg Ser His Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
      50      55      60

Glu Trp Val Ser Asn Ile Asn Tyr Asp Gly Ser Ser Thr Tyr Tyr Ala
65      70      75      80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
      85      90      95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
      100     105     110

Tyr Tyr Cys Ala Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln
      115     120     125

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
      130     135     140

Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala
145     150     155     160

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eolf-seql.txt

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 165 170 175
 Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 180 185 190
 Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
 195 200 205
 Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His Lys
 210 215 220
 Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys Val
 225 230 235 240
 Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe
 245 250 255
 Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro
 260 265 270
 Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val
 275 280 285
 Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr
 290 295 300
 Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val
 305 310 315 320
 Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys
 325 330 335
 Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser
 340 345 350
 Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro
 355 360 365
 Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val
 370 375 380
 Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly
 385 390 395 400
 Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp
 405 410 415
 Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp
 420 425 430

eolf-seql.txt

Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His
435 440 445

Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
450 455 460

<210> 554
<211> 461
<212> PRT
<213> Homo sapiens
<400> 554

Met Ala Trp Val Trp Thr Leu Pro Phe Leu Met Ala Ala Ala Gln Ser
1 5 10 15

Val Gln Ala Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
20 25 30

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
35 40 45

Arg Ser His Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
50 55 60

Glu Trp Val Ser Val Thr Gly Val His Gly Asp Thr Tyr Tyr Ala Asp
65 70 75 80

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
85 90 95

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
100 105 110

Tyr Cys Ala Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly
115 120 125

Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe
130 135 140

Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu
145 150 155 160

Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp
165 170 175

Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu
180 185 190

Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser
195 200 205

eolf-seql.txt

Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His Lys Pro
 210 215 220

Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys Val Glu
 225 230 235 240

Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe Leu
 245 250 255

Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
 260 265 270

Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Gln
 275 280 285

Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys
 290 295 300

Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val Leu
 305 310 315 320

Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys
 325 330 335

Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys
 340 345 350

Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
 355 360 365

Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
 370 375 380

Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln
 385 390 395 400

Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp Gly
 405 410 415

Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln
 420 425 430

Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
 435 440 445

His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 450 455 460

<210> 555
 <211> 461
 <212> PRT

eolf-seql.txt

<213> Homo sapiens

<400> 555

Met Ala Trp Val Trp Thr Leu Pro Phe Leu Met Ala Ala Ala Gln Ser
1 5 10 15

Val Gln Ala Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
20 25 30

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
35 40 45

Arg Ser His Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
50 55 60

Glu Trp Val Ser Val Ile Gly Asn Trp Gly Asp Thr Tyr Tyr Ala Asp
65 70 75 80

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
85 90 95

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
100 105 110

Tyr Cys Ala Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly
115 120 125

Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe
130 135 140

Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu
145 150 155 160

Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp
165 170 175

Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu
180 185 190

Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser
195 200 205

Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His Lys Pro
210 215 220

Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys Val Glu
225 230 235 240

Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe Leu
245 250 255

eolf-seql.txt

Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
260 265 270

Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Gln
275 280 285

Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys
290 295 300

Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val Leu
305 310 315 320

Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys
325 330 335

Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys
340 345 350

Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
355 360 365

Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
370 375 380

Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln
385 390 395 400

Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp Gly
405 410 415

Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln
420 425 430

Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
435 440 445

His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
450 455 460

<210> 556
<211> 461
<212> PRT
<213> Homo sapiens

<400> 556

Met Ala Trp Val Trp Thr Leu Pro Phe Leu Met Ala Ala Ala Gln Ser
1 5 10 15

Val Gln Ala Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
20 25 30

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
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35

40

45

Arg Ser His Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60
 Glu Trp Val Ser Val Thr Thr His Gln Gly Tyr Thr Tyr Tyr Ala Asp
 65 70 75 80
 Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
 85 90 95
 Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
 100 105 110
 Tyr Cys Ala Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly
 115 120 125
 Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe
 130 135 140
 Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu
 145 150 155 160
 Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp
 165 170 175
 Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu
 180 185 190
 Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser
 195 200 205
 Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His Lys Pro
 210 215 220
 Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys Val Glu
 225 230 235 240
 Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe Leu
 245 250 255
 Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
 260 265 270
 Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Gln
 275 280 285
 Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys
 290 295 300
 Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val Leu
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305                310                315                320
Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys
          325          330          335

Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys
          340          345          350

Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
          355          360          365

Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
          370          375          380

Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln
385          390          395          400

Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp Gly
          405          410          415

Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln
          420          425          430

Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
          435          440          445

His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
          450          455          460

<210> 557
<211> 465
<212> PRT
<213> Homo sapiens

<400> 557

Met Lys His Leu Trp Phe Phe Leu Leu Leu Val Ala Ala Pro Arg Trp
1          5          10          15

Val Leu Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
          20          25          30

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
          35          40          45

Arg Ser His Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
          50          55          60

Glu Trp Val Ser Ala Thr Asn Arg Tyr Gly Tyr Thr Tyr Tyr Ala Asp
65          70          75          80

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
          85          90          95

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eolf-seql.txt

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
 100 105 110
 Tyr Cys Ala Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly
 115 120 125
 Thr Leu Val Thr Val Ser Ser Ala Lys Thr Thr Ala Pro Ser Val Tyr
 130 135 140
 Pro Leu Ala Pro Val Cys Gly Asp Thr Thr Gly Ser Ser Val Thr Leu
 145 150 155 160
 Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val Thr Leu Thr Trp
 165 170 175
 Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr Phe Pro Ala Val Leu
 180 185 190
 Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val Thr Val Thr Ser Ser
 195 200 205
 Thr Trp Pro Ser Gln Ser Ile Thr Cys Asn Val Ala His Pro Ala Ser
 210 215 220
 Ser Thr Lys Val Asp Lys Lys Ile Glu Pro Arg Gly Pro Thr Ile Lys
 225 230 235 240
 Pro Cys Pro Pro Cys Lys Cys Pro Ala Pro Asn Leu Leu Gly Gly Pro
 245 250 255
 Ser Val Phe Ile Phe Pro Pro Lys Ile Lys Asp Val Leu Met Ile Ser
 260 265 270
 Leu Ser Pro Ile Val Thr Cys Val Val Val Asp Val Ser Glu Asp Asp
 275 280 285
 Pro Asp Val Gln Ile Ser Trp Phe Val Asn Asn Val Glu Val His Thr
 290 295 300
 Ala Gln Thr Gln Thr His Arg Glu Asp Tyr Asn Ser Thr Leu Arg Val
 305 310 315 320
 Val Ser Ala Leu Pro Ile Gln His Gln Asp Trp Met Ser Gly Lys Glu
 325 330 335
 Phe Lys Cys Lys Val Asn Asn Lys Asp Leu Pro Ala Pro Ile Glu Arg
 340 345 350
 Thr Ile Ser Lys Pro Lys Gly Ser Val Arg Ala Pro Gln Val Tyr Val
 355 360 365

eolf-seql.txt

Leu Pro Pro Pro Glu Glu Glu Met Thr Lys Lys Gln Val Thr Leu Thr
370 375 380

Cys Met Val Thr Asp Phe Met Pro Glu Asp Ile Tyr Val Glu Trp Thr
385 390 395 400

Asn Asn Gly Lys Thr Glu Leu Asn Tyr Lys Asn Thr Glu Pro Val Leu
405 410 415

Asp Ser Asp Gly Ser Tyr Phe Met Tyr Ser Lys Leu Arg Val Glu Lys
420 425 430

Lys Asn Trp Val Glu Arg Asn Ser Tyr Ser Cys Ser Val Val His Glu
435 440 445

Gly Leu His Asn His His Thr Thr Lys Ser Phe Ser Arg Thr Pro Gly
450 455 460

Lys
465

<210> 558
<211> 462
<212> PRT
<213> Homo sapiens
<400> 558

Met Ala Trp Val Trp Thr Leu Pro Phe Leu Met Ala Ala Ala Gln Ser
1 5 10 15

Val Gln Ala Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
20 25 30

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
35 40 45

Arg Ser His Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
50 55 60

Glu Trp Val Ser Asn Ile Asn Tyr Asp Gly Ser Ser Thr Tyr Tyr Ala
65 70 75 80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
85 90 95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
100 105 110

Tyr Tyr Cys Ala Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln
115 120 125

eolf-seql.txt

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
130 135 140

Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala
145 150 155 160

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
165 170 175

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
180 185 190

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
195 200 205

Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His Lys
210 215 220

Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys Val
225 230 235 240

Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe
245 250 255

Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro
260 265 270

Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val
275 280 285

Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr
290 295 300

Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val
305 310 315 320

Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys
325 330 335

Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser
340 345 350

Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro
355 360 365

Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val
370 375 380

Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly
385 390 395 400

eolf-seql.txt

Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp
405 410 415

Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp
420 425 430

Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His
435 440 445

Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
450 455 460

<210> 559
<211> 461
<212> PRT
<213> Homo sapiens
<400> 559

Met Ala Trp Val Trp Thr Leu Pro Phe Leu Met Ala Ala Ala Gln Ser
1 5 10 15

Val Gln Ala Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
20 25 30

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
35 40 45

Arg Ser His Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
50 55 60

Glu Trp Val Ser Val Ile Thr Pro Tyr Gly Asp Thr Tyr Tyr Ala Asp
65 70 75 80

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
85 90 95

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
100 105 110

Tyr Cys Ala Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly
115 120 125

Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe
130 135 140

Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu
145 150 155 160

Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp
165 170 175

eolf-seql.txt

Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu
180 185 190

Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser
195 200 205

Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His Lys Pro
210 215 220

Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys Val Glu
225 230 235 240

Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe Leu
245 250 255

Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
260 265 270

Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Gln
275 280 285

Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys
290 295 300

Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val Leu
305 310 315 320

Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys
325 330 335

Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys
340 345 350

Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
355 360 365

Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
370 375 380

Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln
385 390 395 400

Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp Gly
405 410 415

Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln
420 425 430

Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
435 440 445

eolf-seql.txt

His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
450 455 460

<210> 560
<211> 461
<212> PRT
<213> Homo sapiens

<400> 560

Met Ala Trp Val Trp Thr Leu Pro Phe Leu Met Ala Ala Ala Gln Ser
1 5 10 15

Val Gln Ala Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
20 25 30

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
35 40 45

Arg Ser His Trp Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
50 55 60

Glu Trp Val Ser Val Ile Thr Pro Tyr Gly Asp Thr Tyr Tyr Ala Asp
65 70 75 80

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
85 90 95

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
100 105 110

Tyr Cys Ala Arg Asp Thr Tyr Leu His Phe Asp Tyr Trp Gly Gln Gly
115 120 125

Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe
130 135 140

Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu
145 150 155 160

Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp
165 170 175

Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu
180 185 190

Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser
195 200 205

Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His Lys Pro
210 215 220

Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys Val Glu
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eolf-seql.txt

225 230 235 240

Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe Leu
245 250 255

Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
260 265 270

Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Gln
275 280 285

Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys
290 295 300

Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val Leu
305 310 315 320

Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys
325 330 335

Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys
340 345 350

Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
355 360 365

Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
370 375 380

Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln
385 390 395 400

Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp Gly
405 410 415

Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln
420 425 430

Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
435 440 445

His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
450 455 460

<210> 561
<211> 130
<212> PRT
<213> Homo sapiens

<400> 561

Met Ser Val Leu Thr Gln Val Leu Ala Leu Leu Leu Leu Trp Leu Thr
1 5 10 15

eolf-seql.txt

Gly Thr Arg Cys Asp Ile Glu Leu Thr Gln Pro Pro Ser Val Ser Val
20 25 30

Ala Pro Gly Gln Thr Ala Arg Ile Ser Cys Ser Gly Asp Asn Ile Gly
35 40 45

Ser Phe Tyr Val His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val
50 55 60

Leu Val Ile Tyr Asp Asp Asn Asn Arg Pro Ser Gly Ile Pro Glu Arg
65 70 75 80

Phe Ser Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly
85 90 95

Thr Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ser Trp Ala Gly
100 105 110

Ser Ser Gly Ser Tyr Val Phe Gly Gly Arg Thr Lys Leu Thr Val Leu
115 120 125

Gly Gln
130

<210> 562
<211> 237
<212> PRT
<213> Homo sapiens

<400> 562

Met Ser Val Leu Thr Gln Val Leu Ala Leu Leu Leu Leu Trp Leu Thr
1 5 10 15

Gly Thr Arg Cys Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly
20 25 30

Ser Pro Gly Gln Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp
35 40 45

Val Gly Asp Ile Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys
50 55 60

Ala Pro Lys Leu Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val
65 70 75 80

Ser Asn Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr
85 90 95

Ile Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser
100 105 110

eolf-seql.txt

Tyr Gly Glu Ser Leu Thr Ser Tyr Val Phe Gly Gly Gly Thr Lys Leu
 115 120 125
 Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro
 130 135 140
 Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu
 145 150 155 160
 Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp
 165 170 175
 Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln
 180 185 190
 Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu
 195 200 205
 Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly
 210 215 220
 Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
 225 230 235
 <210> 563
 <211> 234
 <212> PRT
 <213> Homo sapiens
 <400> 563
 Met Ser Val Leu Thr Gln Val Leu Ala Leu Leu Leu Leu Trp Leu Thr
 1 5 10 15
 Gly Thr Arg Cys Asp Ile Glu Leu Thr Gln Pro Pro Ser Val Ser Val
 20 25 30
 Ala Pro Gly Gln Thr Ala Arg Ile Ser Cys Ser Gly Asp Asn Ile Gly
 35 40 45
 Ser Phe Tyr Val His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val
 50 55 60
 Leu Val Ile Tyr Asp Asp Asn Asn Arg Pro Ser Gly Ile Pro Glu Arg
 65 70 75 80
 Phe Ser Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly
 85 90 95
 Thr Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Trp Thr Gly
 100 105 110

eolf-seql.txt

Val Glu Pro Asp Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
115 120 125

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
130 135 140

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
145 150 155 160

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
165 170 175

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
180 185 190

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
195 200 205

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
210 215 220

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
225 230

<210> 564
<211> 237
<212> PRT
<213> Homo sapiens

<400> 564

Met Ser Val Leu Thr Gln Val Leu Ala Leu Leu Leu Leu Trp Leu Thr
1 5 10 15

Gly Thr Arg Cys Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly
20 25 30

Ser Pro Gly Gln Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp
35 40 45

Val Gly Asp Ile Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys
50 55 60

Ala Pro Lys Leu Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val
65 70 75 80

Ser Asn Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr
85 90 95

Ile Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
100 105 110

Tyr Ala Gly Ser Tyr Leu Ser Glu Val Phe Gly Gly Gly Thr Lys Leu
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eolf-seql.txt

115

120

125

Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro
130 135 140

Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu
145 150 155 160

Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp
165 170 175

Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln
180 185 190

Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu
195 200 205

Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly
210 215 220

Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
225 230 235

<210> 565
<211> 237
<212> PRT
<213> Homo sapiens
<400> 565

Met Ser Val Leu Thr Gln Val Leu Ala Leu Leu Leu Leu Trp Leu Thr
1 5 10 15

Gly Thr Arg Cys Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly
20 25 30

Ser Pro Gly Gln Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp
35 40 45

Val Gly Asp Ile Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys
50 55 60

Ala Pro Lys Leu Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val
65 70 75 80

Ser Asn Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr
85 90 95

Ile Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser
100 105 110

Tyr Gly Glu Ser Leu Thr Ser Tyr Val Phe Gly Gly Gly Thr Lys Leu
115 120 125

eolf-seql.txt

Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro
130 135 140

Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu
145 150 155 160

Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp
165 170 175

Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln
180 185 190

Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu
195 200 205

Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly
210 215 220

Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
225 230 235

<210> 566
<211> 237
<212> PRT
<213> Homo sapiens
<400> 566

Met Ser Val Leu Thr Gln Val Leu Ala Leu Leu Leu Trp Leu Thr
1 5 10 15

Gly Thr Arg Cys Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly
20 25 30

Ser Pro Gly Gln Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp
35 40 45

Val Gly Asp Ile Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys
50 55 60

Ala Pro Lys Leu Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val
65 70 75 80

Ser Asn Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr
85 90 95

Ile Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser
100 105 110

Tyr Gly Glu Ser Leu Thr Ser Tyr Val Phe Gly Gly Gly Thr Lys Leu
115 120 125

eolf-seql.txt

Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro
130 135 140

Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu
145 150 155 160

Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp
165 170 175

Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln
180 185 190

Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu
195 200 205

Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly
210 215 220

Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
225 230 235

<210> 567
<211> 237
<212> PRT
<213> Homo sapiens
<400> 567

Met Ser Val Leu Thr Gln Val Leu Ala Leu Leu Leu Leu Trp Leu Thr
1 5 10 15

Gly Thr Arg Cys Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly
20 25 30

Ser Pro Gly Gln Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp
35 40 45

Val Gly Asp Ile Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys
50 55 60

Ala Pro Lys Leu Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val
65 70 75 80

Ser Asn Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr
85 90 95

Ile Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser
100 105 110

Tyr Gly Glu Ser Leu Thr Ser Tyr Val Phe Gly Gly Gly Thr Lys Leu
115 120 125

eolf-seql.txt

Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro
130 135 140

Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu
145 150 155 160

Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp
165 170 175

Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln
180 185 190

Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu
195 200 205

Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly
210 215 220

Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
225 230 235

<210> 568
<211> 237
<212> PRT
<213> Homo sapiens

<400> 568

Met Ser Val Leu Thr Gln Val Leu Ala Leu Leu Leu Trp Leu Thr
1 5 10 15

Gly Thr Arg Cys Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly
20 25 30

Ser Pro Gly Gln Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp
35 40 45

Val Gly Asp Ile Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys
50 55 60

Ala Pro Lys Leu Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val
65 70 75 80

Ser Asn Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr
85 90 95

Ile Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser
100 105 110

Tyr Gly Glu Ser Leu Thr Ser Tyr Val Phe Gly Gly Gly Thr Lys Leu
115 120 125

Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro
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130

135

Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu
145 150 155 160

Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp
165 170 175

Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln
180 185 190

Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu
195 200 205

Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly
210 215 220

Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
225 230 235

<210> 569
<211> 237
<212> PRT
<213> Homo sapiens
<400> 569

Met Ser Val Leu Thr Gln Val Leu Ala Leu Leu Leu Trp Leu Thr
1 5 10 15

Gly Thr Arg Cys Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly
20 25 30

Ser Pro Gly Gln Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp
35 40 45

Val Gly Asp Ile Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys
50 55 60

Ala Pro Lys Leu Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val
65 70 75 80

Ser Asn Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr
85 90 95

Ile Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Thr
100 105 110

Tyr Asp Gly Pro Gly Leu Ser Glu Val Phe Gly Gly Gly Thr Lys Leu
115 120 125

Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro
130 135 140

eolf-seql.txt

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Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu
145          150          155          160

Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp
          165          170          175

Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln
          180          185          190

Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu
          195          200          205

Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly
210          215          220

Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
225          230          235

<210> 570
<211> 237
<212> PRT
<213> Homo sapiens

<400> 570

Met Ser Val Leu Thr Gln Val Leu Ala Leu Leu Leu Leu Trp Leu Thr
1          5          10          15

Gly Thr Arg Cys Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly
          20          25          30

Ser Pro Gly Gln Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp
          35          40          45

Val Gly Asp Ile Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys
50          55          60

Ala Pro Lys Leu Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val
65          70          75          80

Ser Asn Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr
          85          90          95

Ile Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser
          100          105          110

Tyr Gly Glu Ser Leu Thr Ser Tyr Val Phe Gly Gly Gly Thr Lys Leu
          115          120          125

Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro
130          135          140

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eolf-seql.txt

Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu
145 150 155 160

Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp
165 170 175

Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln
180 185 190

Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu
195 200 205

Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly
210 215 220

Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
225 230 235

<210> 571
<211> 237
<212> PRT
<213> Homo sapiens

<400> 571

Met Ser Val Leu Thr Gln Val Leu Ala Leu Leu Leu Leu Trp Leu Thr
1 5 10 15

Gly Thr Arg Cys Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly
20 25 30

Ser Pro Gly Gln Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp
35 40 45

Val Gly Asp Ile Asn Asp Val Ser Trp Tyr Gln Gln His Pro Gly Lys
50 55 60

Ala Pro Lys Leu Met Ile Tyr Asp Val Asn Asn Arg Pro Ser Gly Val
65 70 75 80

Ser Asn Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr
85 90 95

Ile Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Thr
100 105 110

Tyr Asp Gly Pro Gly Leu Ser Glu Val Phe Gly Gly Gly Thr Lys Leu
115 120 125

Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro
130 135 140

eolf-seql.txt

Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu
145 150 155 160

Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp
165 170 175

Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln
180 185 190

Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu
195 200 205

Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly
210 215 220

Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
225 230 235

<210> 572
<211> 1410
<212> DNA
<213> Homo sapiens

<400> 572
atggccttggg tgtggacctt gccattcctg atggcagctg cccaaagcgt gcaggcccag 60
gtgcagctgg tcgagtctgg cggcggactg gtgcagcctg gcggcagcct gagactgagc 120
tgcgccgcca gcggcttcac cttcagcagc tacgtgatga actgggtgcg gcaggcccct 180
ggcaagggcc tggagtgggt gtccttcac agcggcgaca gcagcaacac ctactacgcc 240
gacagcgtga agggccggtt caccatcagc cgggacaaca gcaagaacac cctgtacctg 300
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eolf-seql.txt

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eolf-seql.txt

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eolf-seql.txt

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eolf-seql.txt

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eolf-seql.txt

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eolf-seql.txt

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aaatga						1386

<210> 582
 <211> 1386
 <212> DNA
 <213> Homo sapiens

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cacttcgact	actggggcca gggcacctg gtcaccgtct cctcagcttc caccaagggc 420
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gccaagacaa	agccacggga ggagcagttc aacagcacgt tccgtgtggg cagcgtcctc 960

eolf-seql.txt

accgttgtgc accaggactg gctgaacggc aaggagtaca agtgcaaggt ctccaacaaa	1020
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caggtgtaca ccctgcccc atcccgagg gagatgacca agaaccaggt cagcctgacc	1140
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ccggagaaca actacaagac cacacctccc atgctggact ccgacggctc cttcttcctc	1260
tacagcaagc tcaccgtgga caagagcagg tggcagcagg ggaacgtctt ctcatgctcc	1320
gtgatgcatg aggctctgca caaccactac acgcagaaga gcctctccct gtctccgggt	1380
aaatga	1386

<210> 583
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 <213> Homo sapiens

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atctcgtgta gcggcgataa tattggttct ttttatgttc attggtacca gcagaaaccc	180
gggcaggcgc cagttcttgt gatttatgat gataataatc gtccctcagg catcccgga	240
cgctttagcg gatccaacag cggcaacacc gcgacctga ccattagcgg cactcaggcg	300
gaagacgaag cggattatta ttgcggttct tgggctgggt cttctgggtc ttatgtgttt	360
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<210> 584
 <211> 714
 <212> DNA
 <213> Homo sapiens

<400> 584	
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agcaaccggt tcagcggcag caagagcggc aacaccgcca gcctgaccat cagcggcctc	300
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aaggcgggag tggagacaac cacacctcc aaacaaagca acaacaagta cgcgccagc	600
agctatctga gcctgacgcc tgagcagtgg aagtcccaca gaagctacag ctgccaggtc	660
acgcatgaag ggagcacctg ggaaaagaca gtggccccta cagaatgttc atag	714

eolf-seql.txt

<210> 585
 <211> 705
 <212> DNA
 <213> Homo sapiens

<400> 585
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 agctgcagcg gcgacaacat cggcagcttc tacgtgact ggtatcagca gaagcccggc 180
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 gacgaggccg actactactg cgccagctgg accggcgtgg agcccgacta cgtgtttggc 360
 ggcggaacaa agcttacgt cctaggtcag cccaaggctg cccctcgggt cactctgttc 420
 ccgccctcct ctgaggagct tcaagccaac aaggccacac tgggtgtgtct cataagtgc 480
 ttctaccgag gagccgtgac agtggcctgg aaggcagata gcagccccgt caaggcggga 540
 gtggagacaa ccacaccctc caaacaagc aacaacaagt acgcggccag cagctatctg 600
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<210> 586
 <211> 714
 <212> DNA
 <213> Homo sapiens

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 caccgccgca agggccccaa gctgatgatc tacgacgtga acaaccggcc cagcggcgtg 240
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 actctgttcc cgccctcctc tgaggagctt caagccaaca aggccacact ggtgtgtctc 480
 ataagtgact tctaccgagg agccgtgaca gtggcctgga aggcagatag cagccccgtc 540
 aaggcgggag tggagacaac cacaccctcc aaacaagca acaacaagta cgcgccagc 600
 agctatctga gcctgacgcc tgagcagtg aagtcccaca gaagctacag ctgccaggtc 660
 acgcatgaag ggagcaccgt ggaaaagaca gtggccccta cagaatgttc atag 714

<210> 587
 <211> 714
 <212> DNA
 <213> Homo sapiens

eolf-seql.txt

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agctgcaccg gcaccagcag cgacgtgggc gacatcaacg acgtgagctg gtatcagcag      180
caccccgcca agggcccca gctgatgatc tacgacgtga acaaccggcc cagcggcgtg      240
agcaaccggt tcagcggcag caagagcggc aacaccgcca gcctgaccat cagcggcctc      300
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aaggcgggag tggagacaac cacaccctcc aaacaagca acaacaagta cgcgccagc      600
agctatctga gcctgacgcc tgagcagtgg aagtcccaca gaagctacag ctgccaggtc      660
acgcatgaag ggagcaccgt ggaaaagaca gtggccccta cagaatgttc atag          714

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<210> 588
<211> 714
<212> DNA
<213> Homo sapiens

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caccccgcca agggcccca gctgatgatc tacgacgtga acaaccggcc cagcggcgtg      240
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gtgtttggcg gcggaaccaa gcttaccgtc ctaggtcagc ccaaggctgc cccctcggtc      420
actctgttcc cgccctcctc tgaggagctt caagccaaca aggccacact ggtgtgtctc      480
ataagtgact tctaccggg agccgtgaca gtggcctgga aggcagatag cagccccgtc      540
aaggcgggag tggagacaac cacaccctcc aaacaagca acaacaagta cgcgccagc      600
agctatctga gcctgacgcc tgagcagtgg aagtcccaca gaagctacag ctgccaggtc      660
acgcatgaag ggagcaccgt ggaaaagaca gtggccccta cagaatgttc atag          714

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<210> 589
<211> 714
<212> DNA
<213> Homo sapiens

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<400> 589
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eolf-seql.txt

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caggccgagg	acgaggccga	ctactactgc	agcagctacg	gagagagcct	gaccagctac	360
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agctatctga	gcctgacgcc	tgagcagtgg	aagtcccaca	gaagctacag	ctgccaggtc	660
acgcatgaag	ggagcaccgt	ggaaaagaca	gtggccccta	cagaatgttc	atag	714

<210> 590
 <211> 714
 <212> DNA
 <213> Homo sapiens

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agctgcaccg	gcaccagcag cgacgtgggc gacatcaacg acgtgagctg gtatcagcag 180
caccccgga	aggcccca gctgatgatc tacgacgtga acaaccggcc cagcggcggtg 240
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caggccgagg	acgaggccga ctactactgc agcagctacg gagagagcct gaccagctac 360
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aaggcgggag	tggagacaac cacaccctcc aaacaagca acaacaagta cgcgccagc 600
agctatctga	gcctgacgcc tgagcagtgg aagtcccaca gaagctacag ctgccaggtc 660
acgcatgaag	ggagcaccgt ggaaaagaca gtggccccta cagaatgttc atag 714

<210> 591
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 <212> DNA
 <213> Homo sapiens

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agctgcaccg	gcaccagcag cgacgtgggc gacatcaacg acgtgagctg gtatcagcag 180
caccccgga	aggcccca gctgatgatc tacgacgtga acaaccggcc cagcggcggtg 240
agcaaccggt	tcagcggcag caagagcggc aacaccgcc gcctgaccat cagcggcctc 300
caggccgagg	acgaggccga ctactactgc agcacctacg acggccctgg cctgagcag 360

eolf-seql.txt

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<210> 593
 <211> 714
 <212> DNA
 <213> Homo sapiens

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gtgttcggcg	gagggaccaa gcttacgctc ctaggtcagc ccaaggctgc cccctcggtc 420
actctgttcc	cgccctcctc tgaggagctt caagccaaca aggccacact ggtgtgtctc 480
ataagtgact	tctacccggg agccgtgaca gtggcctgga aggcagatag cagccccgtc 540

eolf-seql.txt

aaggcgggag tggagacaac cacaccctcc aaacaaagca acaacaagta cgcggccagc 600
agctatctga gcctgacgcc tgagcagtgg aagtcccaca gaagctacag ctgccaggtc 660
acgcatgaag ggagcacctg ggaaaagaca gtggccccta cagaatgttc atag 714

<210> 594
<211> 213
<212> PRT
<213> Homo sapiens
<400> 594

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Ala Phe Arg Val Val Glu Gly Gln Gly Trp Gln Ala Phe Lys Asn Asp
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Ala Thr Glu Ile Ile Pro Glu Leu Gly Glu Tyr Pro Glu Pro Pro Pro
35 40 45

Glu Leu Glu Asn Asn Lys Thr Met Asn Arg Ala Glu Asn Gly Gly Arg
50 55 60

Pro Pro His His Pro Phe Glu Thr Lys Asp Val Ser Glu Tyr Ser Cys
65 70 75 80

Arg Glu Leu His Phe Thr Arg Tyr Val Thr Asp Gly Pro Cys Arg Ser
85 90 95

Ala Lys Pro Val Thr Glu Leu Val Cys Ser Gly Gln Cys Gly Pro Ala
100 105 110

Arg Leu Leu Pro Asn Ala Ile Gly Arg Gly Lys Trp Trp Arg Pro Ser
115 120 125

Gly Pro Asp Phe Arg Cys Ile Pro Asp Arg Tyr Arg Ala Gln Arg Val
130 135 140

Gln Leu Leu Cys Pro Gly Gly Glu Ala Pro Arg Ala Arg Lys Val Arg
145 150 155 160

Leu Val Ala Ser Cys Lys Cys Lys Arg Leu Thr Arg Phe His Asn Gln
165 170 175

Ser Glu Leu Lys Asp Phe Gly Thr Glu Ala Ala Arg Pro Gln Lys Gly
180 185 190

Arg Lys Pro Arg Pro Arg Ala Arg Ser Ala Lys Ala Asn Gln Ala Glu
195 200 205

Leu Glu Asn Ala Tyr

210

<210> 595
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 <212> PRT
 <213> Homo sapiens

<400> 595

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<210> 596
 <211> 15
 <212> PRT
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<400> 596

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<210> 597
 <211> 13
 <212> PRT
 <213> Homo sapiens

<400> 597

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<210> 598
 <211> 19
 <212> PRT
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<400> 598

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Gly Gly Gly

<210> 599
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 <212> DNA
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<220>
 <223> siRNA

<400> 599
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21

<210> 600
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 <212> DNA
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<220>
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<210> 601
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<212> DNA
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<220>
<223> siRNA

<400> 601
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<210> 602
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<220>
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<400> 602
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<210> 603
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<210> 604
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<400> 604
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<210> 605
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<400> 605
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<210> 606

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<400> 606
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<220>
<223> siRNA

<400> 608
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<210> 609
<211> 29
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<220>
<223> siRNA

<400> 609
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<220>
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<400> 610
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<210> 611
<211> 102
<212> PRT
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<220>
<223> KERE-class Nanobody

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eolf-seql.txt

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 <222> (31)..(35)
 <223> CDR

<220>
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<220>
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 <223> CDR

<400> 611

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 35 40 45

Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
 50 55 60

Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ala
 65 70 75 80

Val Tyr Arg Cys Tyr Phe Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr
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Gln Val Thr Val Ser Ser
 100

<210> 612
 <211> 102
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eolf-seql.txt

<400> 612

Gln Val Lys Leu Glu Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Val Gly Ser Gly Arg Thr Phe Ser Xaa Xaa
20 25 30

Xaa Xaa Xaa Trp Phe Arg Leu Ala Pro Gly Lys Glu Arg Glu Phe Val
35 40 45

Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Arg Asp Thr Ala Ser
50 55 60

Asn Arg Gly Tyr Leu His Met Asn Asn Leu Thr Pro Glu Asp Thr Ala
65 70 75 80

Val Tyr Tyr Cys Ala Ala Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr
85 90 95

Gln Val Thr Val Ser Ser
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<210> 613

<211> 102

<212> PRT

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<400> 613

Ala Val Gln Leu Val Asp Ser Gly Gly Gly Leu Val Gln Ala Gly Asp
1 5 10 15

Ser Leu Lys Leu Ser Cys Ala Leu Thr Gly Gly Ala Phe Thr Xaa Xaa
20 25 30

Xaa Xaa Xaa Trp Phe Arg Gln Thr Pro Gly Arg Glu Arg Glu Phe Val
35 40 45

eolf-seql.txt

Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
50 55 60

Asn Met Val Tyr Leu Arg Met Asn Ser Leu Ile Pro Glu Asp Ala Ala
65 70 75 80

Val Tyr Ser Cys Ala Ala Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr
85 90 95

Leu Val Thr Val Ser Ser
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<400> 614

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Glu Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Ala Ser Glu Ser Pro Phe Arg Xaa Xaa
20 25 30

Xaa Xaa Xaa Trp Phe Arg Gln Thr Ser Gly Gln Glu Arg Glu Phe Val
35 40 45

Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Arg Asp Asp Ala Lys
50 55 60

Asn Thr Val Trp Leu His Gly Ser Thr Leu Lys Pro Glu Asp Thr Ala
65 70 75 80

Val Tyr Tyr Cys Ala Ala Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr
85 90 95

Gln Val Thr Val Ser Ser

100

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 <223> CDR

<400> 615

Ala Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Gly Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ala Cys Ala Ala Ser Glu Arg Ile Phe Asp Xaa Xaa
 20 25 30

Xaa Xaa Xaa Trp Tyr Arg Gln Gly Pro Gly Asn Glu Arg Glu Leu Val
 35 40 45

Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Met Asp Tyr Thr Lys
 50 55 60

Gln Thr Val Tyr Leu His Met Asn Ser Leu Arg Pro Glu Asp Thr Gly
 65 70 75 80

Leu Tyr Tyr Cys Lys Ile Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr
 85 90 95

Gln Val Thr Val Ser Ser
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 <222> (87)..(91)
 <223> CDR

<400> 616

Asp Val Lys Phe Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Asn Phe Asp Xaa Xaa
 20 25 30

Xaa Xaa Xaa Trp Phe Arg Gln Ala Pro Gly Lys Glu Arg Glu Glu Val
 35 40 45

Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Ser Glu Lys Asp Lys
 50 55 60

Asn Ser Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ala
 65 70 75 80

Leu Tyr Ile Cys Ala Gly Xaa Xaa Xaa Xaa Xaa Trp Gly Arg Gly Thr
 85 90 95

Gln Val Thr Val Ser Ser
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eolf-seql.txt

Gln Val Arg Leu Ala Glu Ser Gly Gly Gly Leu Val Gln Ser Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Ser Thr Tyr Thr Xaa Xaa
 20 25 30
 Xaa Xaa Xaa Trp Tyr Arg Gln Tyr Pro Gly Lys Gln Arg Ala Leu Val
 35 40 45
 Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ala Arg Asp Ser Thr Lys
 50 55 60
 Asp Thr Phe Cys Leu Gln Met Asn Asn Leu Lys Pro Glu Asp Thr Ala
 65 70 75 80
 Val Tyr Tyr Cys Tyr Ala Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr
 85 90 95
 Gln Val Thr Val Ser Ser
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<400> 618

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Ser Asp Xaa Xaa
 20 25 30
 Xaa Xaa Xaa Trp Phe Arg Gln Ala Pro Gly Lys Pro Arg Glu Gly Val
 35 40 45
 Ser Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Thr Asp Asn Ala Lys
 Page 365

50

55

60

Asn Thr Val His Leu Leu Met Asn Arg Val Asn Ala Glu Asp Thr Ala
 65 70 75 80

Leu Tyr Tyr Cys Ala Val Xaa Xaa Xaa Xaa Xaa Trp Gly Arg Gly Thr
 85 90 95

Arg Val Thr Val Ser Ser
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<210> 619
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<400> 619

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Gln Ala Ser Gly Asp Ile Ser Thr Xaa Xaa
 20 25 30

Xaa Xaa Xaa Trp Tyr Arg Gln Val Pro Gly Lys Leu Arg Glu Phe Val
 35 40 45

Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Gly Asp Asn Ala Lys
 50 55 60

Arg Ala Ile Tyr Leu Gln Met Asn Asn Leu Lys Pro Asp Asp Thr Ala
 65 70 75 80

Val Tyr Tyr Cys Asn Arg Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr
 85 90 95

Gln Val Thr Val Ser Pro
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eolf-seql.txt

<210> 620
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<400> 620

Gln Val Pro Val Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Asp
 1 5 10 15

Ser Leu Arg Leu Phe Cys Ala Val Pro Ser Phe Thr Ser Thr Xaa Xaa
 20 25 30

Xaa Xaa Xaa Trp Phe Arg Gln Ala Pro Gly Lys Glu Arg Glu Phe Val
 35 40 45

Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Arg Asn Ala Thr Lys
 50 55 60

Asn Thr Leu Thr Leu Arg Met Asp Ser Leu Lys Pro Glu Asp Thr Ala
 65 70 75 80

Val Tyr Tyr Cys Ala Ala Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr
 85 90 95

Gln Val Thr Val Ser Ser
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<210> 621
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eolf-seql.txt

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<400> 621

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Asp
1          5          10          15

Ser Leu Arg Leu Phe Cys Thr Val Ser Gly Gly Thr Ala Ser Xaa Xaa
          20          25          30

Xaa Xaa Xaa Trp Phe Arg Gln Ala Pro Gly Glu Lys Arg Glu Phe Val
          35          40          45

Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ala Arg Glu Asn Ala Gly
50          55          60

Asn Met Val Tyr Leu Gln Met Asn Asn Leu Lys Pro Asp Asp Thr Ala
65          70          75          80

Leu Tyr Thr Cys Ala Ala Xaa Xaa Xaa Xaa Xaa Trp Gly Arg Gly Thr
          85          90          95

Gln Val Thr Val Ser Ser
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<210> 622
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<223> CDR

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<220>
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<222> (87)..(91)
<223> CDR

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<400> 622

Ala Val Gln Leu Val Glu Ser Gly Gly Asp Ser Val Gln Pro Gly Asp

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1              5              10              15
Ser  Gln  Thr  Leu  Ser  Cys  Ala  Ala  Ser  Gly  Arg  Thr  Asn  Ser  Xaa  Xaa
      20      25      30
Xaa  Xaa  Xaa  Trp  Phe  Arg  Gln  Ala  Pro  Gly  Lys  Glu  Arg  Val  Phe  Leu
      35      40      45
Ala  Xaa  Xaa  Xaa  Xaa  Xaa  Arg  Phe  Thr  Ile  Ser  Arg  Asp  Ser  Ala  Lys
      50      55      60
Asn  Met  Met  Tyr  Leu  Gln  Met  Asn  Asn  Leu  Lys  Pro  Gln  Asp  Thr  Ala
      65      70      75      80
Val  Tyr  Tyr  Cys  Ala  Ala  Xaa  Xaa  Xaa  Xaa  Xaa  Trp  Gly  Gln  Gly  Thr
      85      90      95
Gln  Val  Thr  Val  Ser  Ser
      100

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<400> 623

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Ala  Val  Gln  Leu  Val  Glu  Ser  Gly  Gly  Gly  Leu  Val  Gln  Ala  Gly  Gly
1              5              10      15
Ser  Leu  Arg  Leu  Ser  Cys  Val  Val  Ser  Gly  Leu  Thr  Ser  Ser  Xaa  Xaa
      20      25      30
Xaa  Xaa  Xaa  Trp  Phe  Arg  Gln  Thr  Pro  Trp  Gln  Glu  Arg  Asp  Phe  Val
      35      40      45
Ala  Xaa  Xaa  Xaa  Xaa  Xaa  Arg  Phe  Thr  Ile  Ser  Arg  Asp  Asn  Tyr  Lys
      50      55      60

```

eolf-seql.txt

Asp Thr Val Leu Leu Glu Met Asn Phe Leu Lys Pro Glu Asp Thr Ala
65 70 75 80

Ile Tyr Tyr Cys Ala Ala Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr
85 90 95

Gln Val Thr Val Ser Ser
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<210> 624
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<222> (87)..(91)
<223> CDR

<400> 624

Ala Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Ala
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Thr Ser Thr Arg Thr Leu Asp Xaa Xaa
20 25 30

Xaa Xaa Xaa Trp Phe Arg Gln Ala Pro Gly Arg Asp Arg Glu Phe Val
35 40 45

Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Val Ser Arg Asp Ser Ala Glu
50 55 60

Asn Thr Val Ala Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ala
65 70 75 80

Val Tyr Tyr Cys Ala Ala Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr
85 90 95

Arg Val Thr Val Ser Ser
100

<210> 625

<211> 102
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 <223> CDR

<400> 625

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Val Ser Arg Leu Thr Ala His Xaa Xaa
 20 25 30

Xaa Xaa Xaa Trp Phe Arg Gln Ala Pro Gly Lys Glu Arg Glu Ala Val
 35 40 45

Ser Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Arg Asp Tyr Ala Gly
 50 55 60

Asn Thr Ala Phe Leu Gln Met Asp Ser Leu Lys Pro Glu Asp Thr Gly
 65 70 75 80

Val Tyr Tyr Cys Ala Thr Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr
 85 90 95

Gln Val Thr Val Ser Ser
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<210> 626
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eolf-seql.txt

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<400> 626

Glu Val Gln Leu Val Glu Ser Gly Gly Glu Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Lys Leu Ser Cys Thr Ala Ser Gly Arg Asn Phe Val Xaa Xaa
20 25 30

Xaa Xaa Xaa Trp Phe Arg Arg Ala Pro Gly Lys Glu Arg Glu Phe Val
35 40 45

Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Val Ser Arg Asp Asn Gly Lys
50 55 60

Asn Thr Ala Tyr Leu Arg Met Asn Ser Leu Lys Pro Glu Asp Thr Ala
65 70 75 80

Asp Tyr Tyr Cys Ala Val Xaa Xaa Xaa Xaa Xaa Leu Gly Ser Gly Thr
85 90 95

Gln Val Thr Val Ser Ser
100

<210> 627
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<223> CDR

<400> 627

Ala Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

eolf-seql.txt

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Xaa Xaa
20 25 30

Xaa Xaa Xaa Trp Val Arg Gln Ala Pro Gly Lys Val Leu Glu Trp Val
35 40 45

Ser Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
50 55 60

Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ala
65 70 75 80

Val Tyr Tyr Cys Val Lys Xaa Xaa Xaa Xaa Gly Ser Gln Gly Thr
85 90 95

Gln Val Thr Val Ser Ser
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<223> CDR

<400> 628

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Val Cys Val Ser Ser Gly Cys Thr Xaa Xaa
20 25 30

Xaa Xaa Xaa Trp Val Arg Gln Ala Pro Gly Lys Ala Glu Glu Trp Val
35 40 45

Ser Xaa Xaa Xaa Xaa Xaa Arg Phe Lys Ile Ser Arg Asp Asn Ala Lys
50 55 60

Lys Thr Leu Tyr Leu Gln Met Asn Ser Leu Gly Pro Glu Asp Thr Ala
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65                               70                               75                               80

Met Tyr Tyr Cys Gln Arg Xaa Xaa Xaa Xaa Xaa Arg Gly Gln Gly Thr
      85                               90                               95

Gln Val Thr Val Ser Ser
      100

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<223> CDR

<220>
<221> misc_feature
<222> (87)..(91)
<223> CDR

<400> 629

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Ala Leu Pro Gly Gly
1      5      10

Ser Leu Thr Leu Ser Cys Val Phe Ser Gly Ser Thr Phe Ser Xaa Xaa
      20      25      30

Xaa Xaa Xaa Trp Val Arg His Thr Pro Gly Lys Ala Glu Glu Trp Val
      35      40      45

Ser Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
      50      55      60

Asn Thr Leu Tyr Leu Glu Met Asn Ser Leu Ser Pro Glu Asp Thr Ala
65      70      75      80

Met Tyr Tyr Cys Gly Arg Xaa Xaa Xaa Xaa Xaa Arg Ser Lys Gly Ile
      85      90      95

Gln Val Thr Val Ser Ser
      100

<210> 630
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<212> PRT

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<223> P,R,S 103-class Nanobody

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<220>

<221> misc_feature

<222> (87)..(91)

<223> CDR

<400> 630

Ala Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Thr Phe Ser Xaa Xaa
20 25 30

Xaa Xaa Xaa Trp Phe Arg Gln Ala Pro Gly Lys Glu Arg Glu Phe Val
35 40 45

Ala Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
50 55 60

Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ala
65 70 75 80

Val Tyr Tyr Cys Ala Ala Xaa Xaa Xaa Xaa Xaa Arg Gly Gln Gly Thr
85 90 95

Gln Val Thr Val Ser Ser
100

<210> 631

<211> 102

<212> PRT

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<223> P,R,S 103-class Nanobody

<220>

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<222> (50)..(54)

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<222> (87)..(91)

<223> CDR

<400> 631

Asp Val Gln Leu Val Glu Ser Gly Gly Asp Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Asp Xaa Xaa
20 25 30

Xaa Xaa Xaa Trp Leu Arg Gln Thr Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Gly Xaa Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
50 55 60

Asn Met Leu Tyr Leu His Leu Asn Asn Leu Lys Ser Glu Asp Thr Ala
65 70 75 80

Val Tyr Tyr Cys Arg Arg Xaa Xaa Xaa Xaa Xaa Leu Gly Gln Gly Thr
85 90 95

Gln Val Thr Val Ser Ser
100

<210> 632

<211> 102

<212> PRT

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<223> P,R,S 103-class Nanobody

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<222> (50)..(54)

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<220>

<221> misc_feature

<222> (87)..(91)

<223> CDR

<400> 632

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Val Cys Val Ser Ser Gly Cys Thr Xaa Xaa
Page 376

20

25

30

Xaa Xaa Xaa Trp Val Arg Gln Ala Pro Gly Lys Ala Glu Glu Trp Val
 35 40 45

Ser Xaa Xaa Xaa Xaa Xaa Arg Phe Lys Ile Ser Arg Asp Asn Ala Lys
 50 55 60

Lys Thr Leu Tyr Leu Gln Met Asn Ser Leu Gly Pro Glu Asp Thr Ala
 65 70 75 80

Met Tyr Tyr Cys Gln Arg Xaa Xaa Xaa Xaa Xaa Arg Gly Gln Gly Thr
 85 90 95

Gln Val Thr Val Ser Ser
 100

<210> 633
 <211> 30
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<220>
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<400> 633

Gln Val Gln Arg Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Thr Ser Ser
 20 25 30

<210> 634
 <211> 30
 <212> PRT
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<220>
 <223> KERE-class Nanobody FW1 sequence

<400> 634

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Thr Gly Asp
 1 5 10 15

Ser Leu Ser Leu Ser Cys Ser Ala Ser Gly Arg Thr Phe Ser
 20 25 30

<210> 635
 <211> 30
 <212> PRT
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<220>
 <223> KERE-class Nanobody FW1 sequence

<400> 635

eolf-seql.txt

Gln Val Lys Leu Glu Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Asp
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Thr Gly Arg Ala Phe Gly
20 25 30

<210> 636
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW1 sequence

<400> 636

Ala Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Glu
1 5 10 15

Ser Leu Gly Leu Ser Cys Val Ala Ser Gly Arg Asp Phe Val
20 25 30

<210> 637
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> KERE-class Nanobody FW1 sequence

<400> 637

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Glu Val Leu Gly Arg Thr Ala Gly
20 25 30

<210> 638
<211> 30
<212> PRT
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<220>
<223> KERE-class Nanobody FW1 sequence

<400> 638

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Trp Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Glu Thr Ile Leu Ser
20 25 30

<210> 639
<211> 30
<212> PRT
<213> Artificial Sequence

<220>

<223> KERE-class Nanobody FW1 sequence

<400> 639

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Thr Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Asn Leu Ser Cys Val Ala Ser Gly Asn Thr Phe Asn
 20 25 30

<210> 640

<211> 30

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Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Ala Gln Pro Gly Gly
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Ser Leu Gln Leu Ser Cys Ser Ala Pro Gly Phe Thr Leu Asp
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Ala Gln Glu Leu Glu Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Thr Phe Asn
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Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu
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Ser Cys Ala Ala Ser Gly
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Val Asp Ser Gly Gly Gly Leu Val Gln Ala Gly Asp Ser Leu Lys Leu
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Ser Cys Ala Leu Thr Gly
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Val Asp Ser Gly Gly Gly Leu Val Gln Ala Gly Asp Ser Leu Arg Leu
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Ser Cys Ala Ala Ser Gly
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Val Asp Ser Gly Gly Gly Leu Val Glu Ala Gly Gly Ser Leu Arg Leu
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Ser Cys Gln Val Ser Glu
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Gln Asp Ser Gly Gly Gly Ser Val Gln Ala Gly Gly Ser Leu Lys Leu
 1 5 10 15

Ser Cys Ala Ala Ser Gly

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Val Gln Ser Gly Gly Arg Leu Val Gln Ala Gly Asp Ser Leu Arg Leu
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Ser Cys Ala Ala Ser Glu
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<400> 648

Val Glu Ser Gly Gly Thr Leu Val Gln Ser Gly Asp Ser Leu Lys Leu
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Ser Cys Ala Ser Ser Thr
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Met Glu Ser Gly Gly Asp Ser Val Gln Ser Gly Gly Ser Leu Thr Leu
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Ser Cys Val Ala Ser Gly
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Gln Ala Ser Gly Gly Gly Leu Val Gln Ala Gly Gly Ser Leu Arg Leu
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1

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Ser Cys Ser Ala Ser Val
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Trp Phe Arg Gln Ala Pro Gly Lys Glu Arg Glu Phe Val Ala
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Trp Phe Arg Gln Thr Pro Gly Arg Glu Arg Glu Phe Val Ala
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Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Met Val Ala
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Trp Tyr Arg Gln Gly Pro Gly Lys Gln Arg Glu Leu Val Ala
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Trp Phe Arg Glu Ala Pro Gly Lys Glu Arg Glu Gly Ile Ser
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Trp Tyr Arg Gln Ala Pro Gly Lys Glu Arg Asp Leu Val Ala
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Trp Phe Arg Gln Ala Pro Gly Lys Gln Arg Glu Glu Val Ser
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Trp Phe Arg Gln Pro Pro Gly Lys Val Arg Glu Phe Val Gly
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Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu Gln
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Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Arg Cys Tyr Phe
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<400> 661

Arg Phe Ala Ile Ser Arg Asp Asn Asn Lys Asn Thr Gly Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Glu Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala Ala
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Arg Phe Thr Val Ala Arg Asn Asn Ala Lys Asn Thr Val Asn Leu Glu
1 5 10 15

Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala Ala
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<400> 663

Arg Phe Thr Ile Ser Arg Asp Ile Ala Lys Asn Thr Val Asp Leu Leu
1 5 10 15

Met Asn Asn Leu Glu Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala Ala
20 25 30

eolf-seql.txt

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Arg Leu Thr Ile Ser Arg Asp Asn Ala Val Asp Thr Met Tyr Leu Gln
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Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala Ala
 20 25 30

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Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu Gln
 1 5 10 15

Met Asp Asn Val Lys Pro Glu Asp Thr Ala Ile Tyr Tyr Cys Ala Ala
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Arg Phe Thr Ile Ser Lys Asp Ser Gly Lys Asn Thr Val Tyr Leu Gln
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Met Thr Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala Thr
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<400> 667

Arg Phe Thr Ile Ser Arg Asp Ser Ala Lys Asn Met Met Tyr Leu Gln
 1 5 10 15

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Met Asn Asn Leu Lys Pro Gln Asp Thr Ala Val Tyr Tyr Cys Ala Ala
 20 25 30

<210> 668
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<400> 668

Arg Phe Thr Ile Ser Arg Glu Asn Asp Lys Ser Thr Val Tyr Leu Gln
 1 5 10 15

Leu Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala Ala
 20 25 30

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Arg Phe Thr Ile Ser Arg Asp Tyr Ala Gly Asn Thr Ala Tyr Leu Gln
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Met Asn Ser Leu Lys Pro Glu Asp Thr Gly Val Tyr Tyr Cys Ala Thr
 20 25 30

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Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser
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Trp Gly Lys Gly Thr Leu Val Thr Val Ser Ser
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Arg Gly Gln Gly Thr Arg Val Thr Val Ser Ser
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Trp Gly Leu Gly Thr Gln Val Thr Ile Ser Ser
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Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
 20 25 30

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 <400> 675

Glu Val His Leu Val Glu Ser Gly Gly Gly Leu Val Arg Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Phe Gly Phe Ile Phe Lys
 20 25 30

<210> 676
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<400> 676

Gln Val Lys Leu Glu Glu Ser Gly Gly Gly Leu Ala Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser
20 25 30

<210> 677

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<400> 677

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Val Cys Val Ser Ser Gly Cys Thr
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Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Ala Leu Pro Gly Gly
1 5 10 15

Ser Leu Thr Leu Ser Cys Val Phe Ser Gly Ser Thr Phe Ser
20 25 30

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1 5 10 15

Ser Cys Ala Ala Ser Gly
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Glu Glu Ser Gly Gly Gly Leu Ala Gln Pro Gly Gly Ser Leu Arg Leu
 1 5 10 15

Ser Cys Val Ala Ser Gly
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Val Glu Ser Gly Gly Gly Leu Ala Leu Pro Gly Gly Ser Leu Thr Leu
 1 5 10 15

Ser Cys Val Phe Ser Gly
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<400> 682

Trp Val Arg Gln Ala Pro Gly Lys Val Leu Glu Trp Val Ser
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Trp Val Arg Arg Pro Pro Gly Lys Gly Leu Glu Trp Val Ser
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Trp Val Arg Gln Ala Pro Gly Met Gly Leu Glu Trp Val Ser
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Trp Val Arg Gln Ala Pro Gly Lys Glu Pro Glu Trp Val Ser
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<210> 686

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Trp Val Arg Gln Ala Pro Gly Lys Asp Gln Glu Trp Val Ser
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Trp Val Arg Gln Ala Pro Gly Lys Ala Glu Glu Trp Val Ser
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Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
1 5 10

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Trp Val Arg Gln Ala Pro Gly Arg Ala Thr Glu Trp Val Ser
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Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr Leu Gln
 1 5 10 15

Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Val Lys
 20 25 30

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Arg Phe Thr Ile Ser Arg Asp Asn Ala Arg Asn Thr Leu Tyr Leu Gln
 1 5 10 15

Met Asp Ser Leu Ile Pro Glu Asp Thr Ala Leu Tyr Tyr Cys Ala Arg
 20 25 30

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<400> 692

Arg Phe Thr Ser Ser Arg Asp Asn Ala Lys Ser Thr Leu Tyr Leu Gln
 1 5 10 15

Met Asn Asp Leu Lys Pro Glu Asp Thr Ala Leu Tyr Tyr Cys Ala Arg
 20 25 30

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<400> 693

Arg Phe Ile Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr Leu Gln
 1 5 10 15

Met Asn Ser Leu Gly Pro Glu Asp Thr Ala Met Tyr Tyr Cys Gln Arg
 20 25 30

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Arg Phe Thr Ala Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr Leu Gln
 1 5 10 15

Met Asn Ser Leu Lys Ser Glu Asp Thr Ala Arg Tyr Tyr Cys Ala Arg
 20 25 30

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Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr Leu Gln
 1 5 10 15

Met Asp Asp Leu Gln Ser Glu Asp Thr Ala Met Tyr Tyr Cys Gly Arg
 20 25 30

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Gly Ser Gln Gly Thr Gln Val Thr Val Ser Ser
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<210> 697

<211> 11
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<400> 697

Leu Arg Gly Gly Thr Gln Val Thr Val Ser Ser
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Arg Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 1 5 10

<210> 699
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<400> 699

Arg Ser Arg Gly Ile Gln Val Thr Val Ser Ser
 1 5 10

<210> 700
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<400> 700

Trp Gly Lys Gly Thr Gln Val Thr Val Ser Ser
 1 5 10

<210> 701
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<400> 701

Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser
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<220>
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<400> 702

Ala Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Thr Phe Ser
 20 25 30

<210> 703
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<220>
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<400> 703

Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Met Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asp Phe Gly
 20 25 30

<210> 704
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<220>
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<400> 704

Glu Val His Leu Val Glu Ser Gly Gly Gly Leu Val Arg Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Phe Gly Phe Ile Phe Lys
 20 25 30

<210> 705
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<400> 705

Gln Val Gln Leu Ala Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

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Ser Leu Lys Leu Ser Cys Ala Ala Ser Arg Thr Ile Val Ser
20 25 30

<210> 706
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<400> 706

Gln Glu His Leu Val Glu Ser Gly Gly Gly Leu Val Asp Ile Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Glu Arg Ile Phe Ser
20 25 30

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<400> 707

Gln Val Lys Leu Glu Glu Ser Gly Gly Gly Leu Ala Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser
20 25 30

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<400> 708

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Val Cys Val Ser Ser Gly Cys Thr
20 25 30

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eolf-seql.txt

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Ala Leu Pro Gly Gly
1 5 10 15

Ser Leu Thr Leu Ser Cys Val Phe Ser Gly Ser Thr Phe Ser
20 25 30

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Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly Ser Leu Arg Leu
1 5 10 15

Ser Cys Ala Ala Ser Gly
20

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<400> 711

Ala Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Lys Leu
1 5 10 15

Ser Cys Ala Ala Ser Arg
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<400> 712

Trp Phe Arg Gln Ala Pro Gly Lys Glu Arg Glu Phe Val Ala
1 5 10

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eolf-seql.txt

Trp Val Arg Gln Ala Pro Gly Lys Val Leu Glu Trp Val Ser
1 5 10

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<400> 714

Trp Val Arg Arg Pro Pro Gly Lys Gly Leu Glu Trp Val Ser
1 5 10

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<400> 715

Trp Ile Arg Gln Ala Pro Gly Lys Glu Arg Glu Gly Val Ser
1 5 10

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<400> 716

Trp Val Arg Gln Tyr Pro Gly Lys Glu Pro Glu Trp Val Ser
1 5 10

<210> 717
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<400> 717

Trp Phe Arg Gln Pro Pro Gly Lys Glu His Glu Phe Val Ala
1 5 10

<210> 718
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<400> 718

Trp Tyr Arg Gln Ala Pro Gly Lys Arg Thr Glu Leu Val Ala
 1 5 10

<210> 719

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Trp Leu Arg Gln Thr Pro Gly Lys Gly Leu Glu Trp Val Gly
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<400> 721

Trp Val Arg Gln Ala Pro Gly Lys Ala Glu Glu Phe Val Ser
 1 5 10

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<400> 722

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu Gln
 1 5 10 15

Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala Ala
 20 25 30

<210> 723

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<400> 723

Arg Phe Thr Ile Ser Arg Asp Asn Ala Arg Asn Thr Leu Tyr Leu Gln
 1 5 10 15

Met Asp Ser Leu Ile Pro Glu Asp Thr Ala Leu Tyr Tyr Cys Ala Arg
 20 25 30

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<400> 724

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Glu Met Tyr Leu Gln
 1 5 10 15

Met Asn Asn Leu Lys Thr Glu Asp Thr Gly Val Tyr Trp Cys Gly Ala
 20 25 30

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<400> 725

Arg Phe Thr Ile Ser Ser Asp Ser Asn Arg Asn Met Ile Tyr Leu Gln
 1 5 10 15

Met Asn Asn Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala Ala
 20 25 30

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<400> 726

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Met Leu Tyr Leu His
 1 5 10 15

Leu Asn Asn Leu Lys Ser Glu Asp Thr Ala Val Tyr Tyr Cys Arg Arg
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<210> 727
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 <400> 727

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Lys Thr Val Tyr Leu Arg
 1 5 10 15

Leu Asn Ser Leu Asn Pro Glu Asp Thr Ala Val Tyr Ser Cys Asn Leu
 20 25 30

<210> 728
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Arg Phe Lys Ile Ser Arg Asp Asn Ala Lys Lys Thr Leu Tyr Leu Gln
 1 5 10 15

Met Asn Ser Leu Gly Pro Glu Asp Thr Ala Met Tyr Tyr Cys Gln Arg
 20 25 30

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Arg Phe Thr Val Ser Arg Asp Asn Gly Lys Asn Thr Ala Tyr Leu Arg
 1 5 10 15

Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Asp Tyr Tyr Cys Ala Val
 20 25 30

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Arg Gly Gln Gly Thr Gln Val Thr Val Ser Ser
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Leu Arg Gly Gly Thr Gln Val Thr Val Ser Ser
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Gly Asn Lys Gly Thr Leu Val Thr Val Ser Ser
 1 5 10

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Ser Ser Pro Gly Thr Gln Val Thr Val Ser Ser
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Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser
 1 5 10

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Arg Ser Arg Gly Ile Gln Val Thr Val Ser Ser
1 5 10

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Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser
20 25 30

<210> 737
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<400> 737

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Asp
1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Ala Thr Gly Arg Thr Ser Ser
20 25 30

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Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Thr Ser Gly Phe Thr Phe Ser
20 25 30

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<400> 739

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Lys Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Thr Phe Ser
20 25 30

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<400> 740

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Asp
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Thr Gly Arg Thr Ser Ser
20 25 30

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Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Arg Thr Leu Arg
20 25 30

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<400> 742

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Thr Cys Ala Ala Ser Gly Arg Thr Phe Ser
20 25 30

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Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Leu Thr Phe Asn
20 25 30

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<400> 744

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Asp
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Thr Gly Arg Thr Ser Ser
20 25 30

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Asp Asn Val Met Gly
1 5

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<213> Artificial Sequence

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<400> 746

Ile Tyr Asn Met Asp
1 5

<210> 747

<211> 5

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<400> 747

Arg Phe Asp Met Ser
1 5

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<400> 748

Ser Tyr Phe Met Gly
1 5

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<400> 749

Ile Tyr Asn Met Asp
1 5

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Arg Tyr Val Thr Gly
1 5

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Ser Phe Val Ile Gly
1 5

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<400> 752

Gln Tyr Thr Ile Thr
1 5

<210> 753

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<212> PRT

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<220>

<223> CDR sequence

<400> 753

Ile Tyr Asn Met Asp
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<210> 754

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<212> PRT

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<400> 754

Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val Ala
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<400> 755

Trp Phe Arg Gln Thr Pro Gly Lys Glu Arg Glu Leu Ile Ala
1 5 10

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<400> 756

Trp Phe Arg Gln Ala Pro Gly Lys Gln Arg Glu Phe Ile Ala
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Trp Phe Arg Gln Ala Pro Gly Lys Glu Arg Glu Val Val Ala
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<220>

<223> FR2 sequence

<400> 758

Trp Phe Leu Gln Ala Pro Gly Lys Glu Arg Glu Leu Ile Ala
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Trp Phe Arg Gln Ala Pro Gly Lys Glu Arg Glu Val Val Ala
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<223> FR2 sequence

<400> 760

Trp Phe Arg Gln Ala Pro Gly Lys Gln Arg Glu Val Val Ala
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<400> 761

Trp Phe Arg Gln Ala Pro Gly Lys Glu Arg Glu Phe Val Ala
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Trp Phe Arg Gln Gly Ser Gly Lys Gly Arg Glu Leu Ile Ala
1 5 10

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Thr Ile Trp Ser Ser Gly His Thr Asn Tyr Ala Asp Ser Val Lys Gly
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Arg Leu Trp Trp Arg Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val Lys
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Gly

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<400> 765

Thr Ile Phe Ser Gly Gly Asp Thr Asp Tyr Ile Asp Ser Val Lys Gly
1 5 10 15

<210> 766

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<400> 766

Thr Ile Arg Trp Ser Asp Gly Ser Thr Tyr Tyr Glu Asp Ser Val Lys

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Gly

<210> 767
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<400> 767

Arg Ile Trp Trp Arg Ser Gly Ala Thr Tyr Tyr Ala Asp Ser Val Lys
 1 5 10 15

Gly

<210> 768
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
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<400> 768

Ser Ile Ser Trp Ser Gly Glu Ser Thr Tyr Tyr Ala Asp Ser Val Lys
 1 5 10 15

Gly

<210> 769
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<400> 769

Ser Ile Thr Ser Gly Gly Ser Thr Tyr Tyr Glu Asp Ser Gly Lys Gly
 1 5 10 15

<210> 770
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 <212> PRT
 <213> Artificial Sequence

<220>
 <223> CDR sequence

<400> 770

Ala Val Ser Trp Ser Gly Ser Ser Glu Ser Val Ser Asn Ser Val Lys
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10

15

Gly

<210> 771
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 <212> PRT
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<220>
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<400> 771

Arg Ile Trp Trp Arg Ser Gly Glu Thr Tyr Tyr Ala Asp Ser Val Lys
 1 5 10 15

Gly

<210> 772
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<220>
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<400> 772

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu Gln
 1 5 10 15

Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Asn Leu
 20 25 30

<210> 773
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<400> 773

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu Gln
 1 5 10 15

Met Asn Ser Leu Lys Pro Glu Asp Thr Ser Val Tyr Ile Cys Thr Ala
 20 25 30

<210> 774
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<400> 774

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Cys Pro
20 25 30

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<400> 775

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala Ala
20 25 30

<210> 776

<211> 32

<212> PRT

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<400> 776

Arg Phe Thr Ile Ser Arg Gly Asn Ala Lys Asn Thr Val Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Lys Pro Glu Asp Thr Gly Val Tyr His Cys Thr Ala
20 25 30

<210> 777

<211> 32

<212> PRT

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<400> 777

Arg Phe Ala Ile Ser Arg Asp Asn Ala Lys Asn Ala Val Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Asn Leu Glu Asp Thr Gly Val Tyr Tyr Cys Ala Glu
20 25 30

<210> 778

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<400> 778

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Arg Val Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala Ala
20 25 30

<210> 779

<211> 32

<212> PRT

<213> Artificial Sequence

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<223> FR3 sequence

<400> 779

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Ala Tyr Leu Ala
1 5 10 15

Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala Ala
20 25 30

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<223> FR3 sequence

<400> 780

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Lys Pro Glu Asp Thr Asn Val Tyr His Cys Ala Ala
20 25 30

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Gly Thr Ile Val Thr Gly Thr Trp Arg Ser Asp Tyr
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<400> 782

Gly Asp Thr Gly Gly Ala Ala Tyr Gly Tyr
1 5 10

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<400> 783

Leu Gly Ile Glu Tyr Ala
1 5

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<400> 784

Ala Lys Gly Ile Gly Val Tyr Gly Tyr
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<400> 785

Gly Val Thr Gly Gly Ala Ala Tyr Gly Tyr
1 5 10

<210> 786

<211> 9

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<223> CDR sequence

<400> 786

Ala Glu Leu Pro Gly Thr Tyr Asp Tyr
1 5

<210> 787

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<400> 787

Ala Glu Pro Ala Gly Val Tyr Asp Val
 1 5

<210> 788
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<400> 788

Asp Arg Arg Gly Leu Ala Ser Thr Arg Ala Ala Asp Tyr Asp Tyr
 1 5 10 15

<210> 789
 <211> 10
 <212> PRT
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<220>
 <223> CDR sequence

<400> 789

Gly Asp Thr Gly Gly Ala Ser Tyr Gly Tyr
 1 5 10

<210> 790
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 <212> PRT
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<400> 790

Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser
 1 5 10

<210> 791
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<400> 791

Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser
 1 5 10

<210> 792
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<400> 792

Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser
 1 5 10

<210> 793
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<400> 793

Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser
 1 5 10

<210> 794
 <211> 11
 <212> PRT
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<400> 794

Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser
 1 5 10

<210> 795
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 <212> PRT
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<400> 795

Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser
 1 5 10

<210> 796
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> FR4 sequence

<400> 796

Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser
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<210> 797
 <211> 11
 <212> PRT
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<220>
 <223> FR4 sequence

<400> 797

Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser
 1 5 10

<210> 798
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 <212> PRT
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<400> 798

Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser
 1 5 10

<210> 799
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<400> 799

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Asp Asn
 20 25 30

Val Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
 35 40 45

Ala Thr Ile Trp Ser Ser Gly His Thr Asn Tyr Ala Asp Ser Val Lys
 50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu
 65 70 75 80

Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Asn
 85 90 95

Leu Gly Thr Ile Val Thr Gly Thr Trp Arg Ser Asp Tyr Trp Gly Gln
 100 105 110

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Gly Thr Gln Val Thr Val Ser Ser
115 120

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<212> PRT
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Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Asp
1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Ala Thr Gly Arg Thr Ser Ser Ile Tyr
20 25 30

Asn Met Asp Trp Phe Arg Gln Thr Pro Gly Lys Glu Arg Glu Leu Ile
35 40 45

Ala Arg Leu Trp Trp Arg Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ser Val Tyr Ile Cys
85 90 95

Thr Ala Gly Asp Thr Gly Gly Ala Ala Tyr Gly Tyr Trp Gly Gln Gly
100 105 110

Thr Gln Val Thr Val Ser Ser
115

<210> 801
<211> 114
<212> PRT
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<220>
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<400> 801

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Thr Ser Gly Phe Thr Phe Ser Arg Phe
20 25 30

Asp Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gln Arg Glu Phe Ile
35 40 45

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Ala Thr Ile Phe Ser Gly Gly Asp Thr Asp Tyr Ile Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Cys
85 90 95

Pro Leu Gly Ile Glu Tyr Ala Trp Gly Gln Gly Thr Gln Val Thr Val
100 105 110

Ser Ser

<210> 802
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
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<400> 802

Lys Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Thr Phe Ser Ser Tyr
20 25 30

Phe Met Gly Trp Phe Arg Gln Ala Pro Gly Lys Glu Arg Glu Val Val
35 40 45

Ala Thr Ile Arg Trp Ser Asp Gly Ser Thr Tyr Tyr Glu Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Ala Ala Lys Gly Ile Gly Val Tyr Gly Tyr Trp Gly Gln Gly Thr
100 105 110

Gln Val Thr Val Ser Ser
115

<210> 803
<211> 119
<212> PRT
<213> Artificial Sequence

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<220>

<223> Nanobody

<400> 803

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Asp
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Thr Gly Arg Thr Ser Ser Ile Tyr
20 25 30

Asn Met Asp Trp Phe Leu Gln Ala Pro Gly Lys Glu Arg Glu Leu Ile
35 40 45

Ala Arg Ile Trp Trp Arg Ser Gly Ala Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Gly Asn Ala Lys Asn Thr Val Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Gly Val Tyr His Cys
85 90 95

Thr Ala Gly Val Thr Gly Gly Ala Ala Tyr Gly Tyr Trp Gly Gln Gly
100 105 110

Thr Gln Val Thr Val Ser Ser
115

<210> 804

<211> 118

<212> PRT

<213> Artificial Sequence

<220>

<223> Nanobody

<400> 804

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Arg Thr Leu Arg Arg Tyr
20 25 30

Val Thr Gly Trp Phe Arg Gln Ala Pro Gly Lys Glu Arg Glu Val Val
35 40 45

Ala Ser Ile Ser Trp Ser Gly Glu Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Ala Ile Ser Arg Asp Asn Ala Lys Asn Ala Val Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Asn Leu Glu Asp Thr Gly Val Tyr Tyr Cys

Ala Glu Ala Glu Leu Pro Gly Thr Tyr Asp Tyr Trp Gly Gln Gly Thr
 100 105 110

Gln Val Thr Val Ser Ser
 115

<210> 805
 <211> 117
 <212> PRT
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<220>
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<400> 805

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
 1 5 10 15

Ser Leu Arg Leu Thr Cys Ala Ala Ser Gly Arg Thr Phe Ser Ser Phe
 20 25 30

Val Ile Gly Trp Phe Arg Gln Ala Pro Gly Lys Gln Arg Glu Val Val
 35 40 45

Ala Ser Ile Thr Ser Gly Gly Ser Thr Tyr Tyr Glu Asp Ser Gly Lys
 50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Arg Val Tyr Leu
 65 70 75 80

Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala
 85 90 95

Ala Ala Glu Pro Ala Gly Val Tyr Asp Val Trp Gly Gln Gly Thr Gln
 100 105 110

Val Thr Val Ser Ser
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<210> 806
 <211> 124
 <212> PRT
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<220>
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<400> 806

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Leu Thr Phe Asn Gln Tyr
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Thr Ile Thr Trp Phe Arg Gln Ala Pro Gly Lys Glu Arg Glu Phe Val
 35 40 45

Ala Ala Val Ser Trp Ser Gly Ser Ser Glu Ser Val Ser Asn Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Ala Tyr
 65 70 75 80

Leu Ala Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Ala Asp Arg Arg Gly Leu Ala Ser Thr Arg Ala Ala Asp Tyr Asp
 100 105 110

Tyr Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser
 115 120

<210> 807

<211> 119

<212> PRT

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<220>

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<400> 807

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Asp
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Thr Gly Arg Thr Ser Ser Ile Tyr
 20 25 30

Asn Met Asp Trp Phe Arg Gln Gly Ser Gly Lys Gly Arg Glu Leu Ile
 35 40 45

Ala Arg Ile Trp Trp Arg Ser Gly Glu Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Asn Val Tyr His Cys
 85 90 95

Ala Ala Gly Asp Thr Gly Gly Ala Ser Tyr Gly Tyr Trp Gly Gln Gly
 100 105 110

Thr Gln Val Thr Val Ser Ser
 115

eolf-seql.txt

<210> 808
 <211> 213
 <212> PRT
 <213> Homo sapiens

<400> 808

Met Gln Leu Pro Leu Ala Leu Cys Leu Val Cys Leu Leu Val His Thr
 1 5 10 15

Ala Phe Arg Val Val Glu Gly Gln Gly Trp Gln Ala Phe Lys Asn Asp
 20 25 30

Ala Thr Glu Ile Ile Pro Glu Leu Gly Glu Tyr Pro Glu Pro Pro Pro
 35 40 45

Glu Leu Glu Asn Asn Lys Thr Met Asn Arg Ala Glu Asn Gly Gly Arg
 50 55 60

Pro Pro His His Pro Phe Glu Thr Lys Asp Val Ser Glu Tyr Ser Cys
 65 70 75 80

Arg Glu Leu His Phe Thr Arg Tyr Val Thr Asp Gly Pro Cys Arg Ser
 85 90 95

Ala Lys Pro Val Thr Glu Leu Val Cys Ser Gly Gln Cys Gly Pro Ala
 100 105 110

Arg Leu Leu Pro Asn Ala Ile Gly Arg Gly Lys Trp Trp Arg Pro Ser
 115 120 125

Gly Pro Asp Phe Arg Cys Ile Pro Asp Arg Tyr Arg Ala Gln Thr Val
 130 135 140

Gln Leu Leu Cys Pro Gly Gly Glu Ala Pro Arg Ala Arg Lys Val Arg
 145 150 155 160

Leu Val Ala Ser Cys Lys Cys Lys Arg Leu Thr Arg Phe His Asn Gln
 165 170 175

Ser Glu Leu Lys Asp Phe Gly Thr Glu Ala Ala Arg Pro Gln Lys Gly
 180 185 190

Arg Lys Pro Arg Pro Arg Ala Arg Ser Ala Lys Ala Asn Gln Ala Glu
 195 200 205

Leu Glu Asn Ala Tyr
 210

<210> 809
 <211> 213
 <212> PRT
 <213> Artificial Sequence

eolf-seql.txt

<220>

<223> Recombinant sclerostin

<400> 809

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Met  Pro  Leu  Leu  Leu  Leu  Leu  Pro  Leu  Leu  Trp  Ala  Gly  Ala  Leu  Ala
 1          5          10          15

His  His  His  His  His  His  His  Gln  Gly  Trp  Gln  Ala  Phe  Lys  Asn  Asp
          20          25          30

Ala  Thr  Glu  Ile  Ile  Pro  Glu  Leu  Gly  Glu  Tyr  Pro  Glu  Pro  Pro  Pro
          35          40          45

Glu  Leu  Glu  Asn  Asn  Lys  Thr  Met  Asn  Arg  Ala  Glu  Asn  Gly  Gly  Arg
 50          55          60

Pro  Pro  His  His  Pro  Phe  Glu  Thr  Lys  Asp  Val  Ser  Glu  Tyr  Ser  Cys
65          70          75          80

Arg  Glu  Leu  His  Phe  Thr  Arg  Tyr  Val  Thr  Asp  Gly  Pro  Cys  Arg  Ser
          85          90          95

Ala  Lys  Pro  Val  Thr  Glu  Leu  Val  Cys  Ser  Gly  Gln  Cys  Gly  Pro  Ala
          100          105          110

Arg  Leu  Leu  Pro  Asn  Ala  Ile  Gly  Arg  Gly  Lys  Trp  Trp  Arg  Pro  Ser
115          120          125

Gly  Pro  Asp  Phe  Arg  Cys  Ile  Pro  Asp  Arg  Tyr  Arg  Ala  Gln  Arg  Val
130          135          140

Gln  Leu  Leu  Cys  Pro  Gly  Gly  Glu  Ala  Pro  Arg  Ala  Arg  Lys  Val  Arg
145          150          155          160

Leu  Val  Ala  Ser  Cys  Lys  Cys  Lys  Arg  Leu  Thr  Arg  Phe  His  Asn  Gln
          165          170          175

Ser  Glu  Leu  Lys  Asp  Phe  Gly  Thr  Glu  Ala  Ala  Arg  Pro  Gln  Lys  Gly
          180          185          190

Arg  Lys  Pro  Arg  Pro  Arg  Ala  Arg  Ser  Ala  Lys  Ala  Asn  Gln  Ala  Glu
195          200          205

Leu  Glu  Asn  Ala  Tyr
210

```