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(54) Titre : RECEPTEURS COUPLES A UNE PROTEINE G OLFACTIVE ET DE PHEROMONES
(54) Title: OLFACTORY AND PHEROMONES G-PROTEIN COUPLED RECEPTORS

(57) **Abrégé/Abstract:**

The present invention is related to an olfactory or pheromone G-protein coupled receptor having an amino acid sequence as set forth in the sequence SEQ ID NO. 2.



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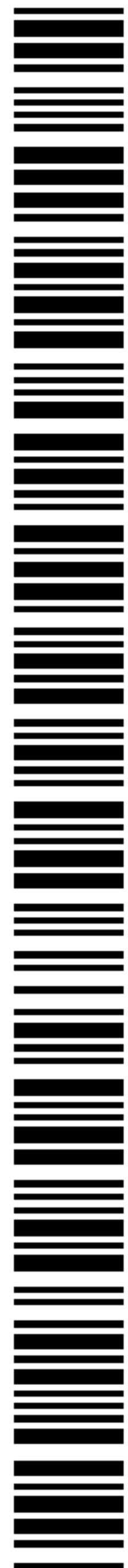
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DEMANDES OU BREVETS VOLUMINEUX

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5

OLFACTORY AND PHEROMONES G-PROTEIN COUPLED RECEPTORSField of the invention

10 [0001] The present invention is related to newly identified, isolated and purified members of the family of olfactory ligand (odorant or any other molecule able to interact with said receptor) and the family of pheromone ligand G-protein-coupled (preferably human) receptors as
15 well as to the various uses that can be made of said receptors.

[0002] The invention is also related to the polynucleotides sequences encoding said (preferably human) receptors.

20 [0003] The invention is further related to methods using receptor polypeptides and polynucleotides applicable to diagnostic and treatment in receptor-mediated disorders.

[0004] The invention is further related to ligand-screening methods using the receptor polypeptides and
25 polynucleotides, to identify agonists and antagonists used as improved flavours or perfumes, as well as the prevention and/or treatment of various disorders.

[0005] The invention further encompasses agonists and antagonists based on the said olfactory and pheromones
30 receptor polypeptides and polynucleotides and biosensors comprising said receptor polypeptides.

[0006] The invention is further related to procedures for producing the receptor polypeptides and

polynucleotides according to the invention, preferably by genetic recombinant methods.

Background of the invention

5 [0007] G-protein coupled receptors (GPCRs) are proteins responsible for transducing a signal within a cell. GPCRs have usually seven transmembrane domains. Upon binding of a ligand to an extra-cellular portion or fragment of a GPCR, a signal is transduced within the cell
10 that results in a change in a biological or physiological property or behaviour of the cell. GPCRs, along with G-proteins and effectors (intracellular enzymes and membrane channels modulated by G-proteins), are the components of a modular signalling system that connects the state of intra-
15 cellular second messengers to extra-cellular inputs.

[0008] GPCR genes and gene products are potential causative agents of disease and these receptors seem to be of critical importance to both the central nervous system and peripheral physiological processes.

20 [0009] The GPCR protein superfamily is represented in five families : Family I, receptors typified by rhodopsin and the beta2-adrenergic receptor and currently represented by over 200 unique members; Family II, the parathyroid hormone/calcitonin/secretin receptor family;
25 Family III, the metabotropic glutamate receptor family, Family IV, the CAMP receptor family, important in the chemotaxis and development of *D. discoideum*; and Family V, the fungal mating pheromone receptor such as STE2.

[0010] G proteins represent a family of
30 heterotrimeric proteins composed of α , β and γ subunits, that bind guanine nucleotides. These proteins are usually linked to cell surface receptors (receptors containing seven transmembrane domains).

[0011] Following ligand binding to the GPCR, a conformational change is transmitted to the G protein, which caused the α -subunit to exchange a bound GDP molecule for a GTP molecule and to dissociate from the $\beta\gamma$ -subunits.

5 [0012] The GTP-bound form of the α , β and γ -subunits typically functions as an effector-modulating moiety, leading to the production of second messengers, such as cAMP (e.g. by activation of adenylyl cyclase), diacylglycerol or inositol phosphates.

10 [0013] Greater than 20 different types of α -subunits are known in humans. These subunits associate with a small pool of β and γ subunits. Examples of mammalian G proteins include Gi, Go, Gq, Gs and Gt. G proteins are described extensively in Lodish et al., *Molecular Cell*
15 *Biology*, (Scientific American Books Inc., New York, N.Y., 1995), the contents of which are incorporated herein by reference.

[0014] Known and unknown GPCRs constitute now major targets for drug action and development.

20 [0015] More than 300 GPCRs have been cloned thus far and it is generally assumed that it exists well over 1000 such receptors. Mechanistically, approximately 50-60% of all clinically relevant drugs act by modulating the functions of various GPCRs (Cudermann et al., *J. Mol. Med.*,
25 Vol. 73, pages 51-63, 1995).

Summary of the invention

[0016] The present invention is related to newly isolated and purified identified members of olfactory
30 (odorant/ligand) and pheromones/ligands (SEQ ID NO. 1 to SEQ.ID NO. 548) and G-protein-coupled receptors as well as to polynucleotide sequences including recombinant sequences encoding said receptors, described hereafter.

[0017] The present invention is also related to non-described nucleotide and/or amino acid sequences homologous to the sequences corresponding to the receptors described hereafter.

5 [0018] Homologous sequences mean sequences which present a high sequence identity (which present an identity higher than 75%, 80%, 85%, 90% or 95%) with the complete sequence described hereafter.

[0019] Another aspect of the present invention is
10 related to a specific active portion of said sequences or a libraries of said active portion (ligand binding) of these sequences. Said portions could be partial or deleted receptors which comprise modifications (punctual mutations) or deletions upon the complete nucleotide or amino acid
15 sequences and which still maintain the active site(s) necessary for the binding of a specific ligand able to interact with said receptors.

[0020] Homologous sequences of the sequences according to the invention may comprise similar receptors
20 which exist in other animal (vertebrates, preferably mammalian) or specific human populations, but which are involved in the same biochemical pathway.

[0021] Such homologous sequences may comprise addition, deletion or substitution of one or more amino
25 acids or nucleotides, which does not substantially alter the functional characteristics of the receptor(s) according to the invention in order to form preferably an hybrid polypeptide with another transmembrane protein, suitable for rapid ligand screening.

30 [0022] Thus, the invention encompasses also a receptor and corresponding nucleotide sequence having exactly the same amino acid or nucleotide sequences (derived from olfactory neurons or olfactory epithelium) as shown in the enclosed sequence listing, as well as

molecules which differ, but which are not retaining the basic qualitative binding properties of the receptors according to the invention.

[0023] The invention is preferably related to said human receptors characterised by the complete nucleotide and amino acid sequences described hereafter, agonist and antagonist compounds or inhibitors, preferably antibodies or specific hypervariable portions thereof that bind specifically to said receptors (i.e. that have at least a 10 fold greater affinity for said receptors than any other naturally occurring antibody) and specifically antibodies made by a process involving the injection of a pharmaceutically acceptable preparation of such amino acid sequence into a animal capable of producing antibodies directed against said receptor.

[0024] For instance, a monoclonal antibody to the receptor according to the invention is obtained by injecting of an expression plasmid comprising the DNA encoding said receptor into a non human mammal and than fusing mouse spleen cells with myeloma cells.

[0025] The present invention is also related to the polynucleotide according to the invention, possibly linked to other expression sequences and incorporated into a vector and host cells transformed by such vector (plasmid, virus such as an adenovirus, liposomes, cationic vesicles,...).

[0026] The present invention is also related to the recombinant, preferably human receptor according to the invention, produced by such host cells according to the method well known by the person skilled in the art.

[0027] The present invention is also related to a transgenic non human mammal comprising a partial or total deletion of the genetic sequences encoding the receptor according to the invention, preferably a non human mammal

comprising an homologous recombination "knock-out" of the nucleotide sequences (polynucleotides) according to the invention or a transgenic non human mammal overexpressing above natural level said nucleotide sequences
5 (polynucleotides).

[0028] Said transgenic non human mammal can be obtained by methods well known by the person skilled in the art, for instance by the one described in the document WO98/20112 using classical techniques based upon the
10 transfection of embryonic stem cells, preferably according to the method described by Carmeliet et al., *Nature*, Vol. 380, p. 435-439, 1996.

[0029] Preferably, said transgenic non human mammal overexpressing the polynucleotides according to the
15 invention or portions thereof comprises said polynucleotides or active portions thereof incorporated in a DNA construct with an inducible promoter allowing its overexpression and possibly tissues and other specific regulatory elements.

20 [0030] Another aspect of the present invention is related to a method for the screening (detection and possibly recovering) of (odorant, pheromones or inhibitor thereof) compounds which are known or not known to be agonists, antagonists or inhibitors of natural compounds to
25 the receptor according to the invention, said method comprising :

- contacting a cell or cell extract from the cell transfected with a vector expressing the polynucleotides encoding the receptor(s) according to the invention or
30 active portion(s) thereof,
- possibly isolating a membrane fraction from the cell extract or the complete cell with a natural compound binding to said receptor under conditions permitting binding of said compound to said receptor, possibly by

the activation of a functional response (resulting in a detectable signal) and

- detecting the presence of any such compound by means of a bioassay, preferably a modification in the production of a second messenger or an increase in the receptor activity in the presence of another molecule (or compound) working as an agonist, antagonist or inhibitor of a natural known compound to the receptor according to the invention and thereby possibly recovering and determining whether said molecule (or other compound) is able to work as an agonist, antagonist or inhibitor of the natural compound to its receptor, preferably the second messenger assay comprises the measurement of intra-cellular cAMP, intracellular inositol phosphates, intra-cellular diacylglycerol concentration, arachinoid acid concentration, MAP kinase(s) or tyrosine kinase(s) pathways or intra-cellular calcium mobilisation.

[0031] The present invention is related to said molecules or compounds, preferably pheromones or flavours, including possible toxic molecules identified by said screening (identification and recovering) method and to their pharmaceutical, cosmetical and industrial (production of detergents, soap, shampoo, fragrances, odorant fingerprints, appetite surpressant compounds, etc.) use.

[0032] Such molecules or compounds may be used also for obtaining in mammal a modification of its taste and its physiological reactions to odorant, pheromones or flavours.

[0033] The present invention is also related to a (preferably nasal) spray for controlling appetite comprising the identified compounds or molecules by the method according to the invention in a suitable carrier.

[0034] Another application of such receptor is the trapping of odour by using the receptor, the cell or membrane according to the invention wherein the desired

odour ligand is absorbed by the binding of the odourant ligand to the odourant receptor.

[0035] The present invention is further related to an odour trap, using said method for trapping odour.

5 [0036] Preferably, the tested odorants or pheromones upon the receptor according to the invention are advantageously selected from different body secretions such as sweat, salivary, urine, vaginal secretions, sperm, etc. The tested odorants or pheromones upon the receptor are
10 also advantageously selected from the group of 16-androstene family, such as the 5 α -androst-16-en-3 α -ol, the 5 α -androst-16-en-3-one, androstadienone, a human pheromone described previously (Grosser et al., Psychoneuroendocrinology vol. 25, pages 289-299, 2000) and
15 other androstenol derivatives; the group consisting of estrene family, such as 1,3,5(10),16-estratetraen-3-ol and other estradiol derivatives described in PCT/US92/00219, PCT/US92/00220 and EP0562843 ; the group consisting of progestin family such as the human pheromone pregna-4,20-
20 diene-3,6-dione (Monti-Bloch et al., J. Steroid Biochem. Mol. Biol. Vol. 65, pages 237-242) and other progesterone derivatives , the group consisting of small fatty acids such as acetic acid, propionic acid, butyric acid, isovaleric acid and isocaproic acid that compose the
25 putative human vaginal pheromone copulin and such as the trans-3-methyl-2-hexanoic acid found in human sweat, cyclic organic compounds homologs to known animal pheromone such as dehydro-exo-brevicommin and such as nepetalactone, and human homologs of the murin protein aphrodisin.

30 [0037] Other examples of such compounds are molecules present in vapour emanating from narcotics, like cocaine, marihuana, heroin, hashish, angel dust, gasoline, natural gas, alcohol, decayed human flesh, explosives,

plastic explosives, fire arms, gun powder, toxic fumes, noxious fumes or dangerous fumes, etc.

[0038] Said molecules or compounds could be used also for promoting or suppressing chemical communication.

- 5 Every stimuli involving the emission by an organism or an exogenous source of chemical compounds able to modify the probability of response of another organism or a part of another organism.

[0039] These molecules or compounds could be used in
10 the treatment or prevention of various disorders affecting, for instance, cell migration, cell death, cell growth, psychotic and neurological disorders, including anxiety, schizophrenia, maniac depression, depression or mound modification, etc.

- 15 [0040] These molecules or compounds could be used also for improving contraceptive medication, treatment promoting axonal growth, neural connection and nerves regeneration, in modulating male and female endocrine functions, or may effect the menstrual cycle. Indeed, it is
20 known that several of said receptors can be present at the surface of spermatozoids and can then find contraceptive application or could be used in the treatment/prevention of sterility/fertility. these receptors are also present in various neuroolfactory neurons and can improve their
25 connection, especially upon the olfactory bulb or upon other tissue comprising said olfactory receptors.

[0041] They could be also used for the treatment or the prevention of various animal or human behaviours, such as stimulation and/or suppression of appetite,
30 stimulation and/or suppression of motivation and sexual attraction, stimulation and/or suppression of aggressivity, stimulation and/or suppression of alarm and defence behaviours, stimulation and/or suppression of territory and

trail-marking, stimulation and/or suppression of social regulation and recognition, stimulation and/or suppression of mother-child recognition, etc.

[0042] The screening method according to the
5 invention could be performed by well known methods to the person skilled in the art, preferably high-throughput screening, diagnostic and dosage devices based upon the method described in the International patent application WO00/02045 performed upon various solid supports such as
10 micro-titer plates or biochips according to known techniques by the person skilled in the art.

[0043] The present invention is also related to the molecules characterized and possibly recovered by said method, including the pharmaceutical composition comprising
15 a sufficient amount of said molecules and a pharmaceutically acceptable carrier or diluent for the preparation of a medicament in the prevention and/or the treatment of specific diseases.

[0044] A last aspect of the present invention is
20 related to a biosensor or any technical device comprising the receptors according to the invention for the detection of the specific above-mentioned compounds or molecules.

SEQUENCE LISTING

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Veithen, Alex

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cac aag cag cgg gtc cag cac att gat agg agc aat ctc tcc ccc aga His Lys Gln Arg Val Gln His Ile Asp Arg Ser Asn Leu Ser Pro Arg 210 215 220	672
gcc tcc cca gag aac aga gct acg cag agc atc ctc atc ctg gtg agc Ala Ser Pro Glu Asn Arg Ala Thr Gln Ser Ile Leu Ile Leu Val Ser 225 230 235 240	720
acc ttt gtg tct tct tac act ctc tcc tgc ctt ttc caa gtt tgt atg Thr Phe Val Ser Ser Tyr Thr Leu Ser Cys Leu Phe Gln Val Cys Met 245 250 255	768
gct ctt ttg gat aat ccc aat agt tta ctg gtg aac act tca gcc tta Ala Leu Leu Asp Asn Pro Asn Ser Leu Leu Val Asn Thr Ser Ala Leu 260 265 270	816
atg agt gta tgt ttc cca act ctc agc ccc ttt gtt ctc atg agc tgt Met Ser Val Cys Phe Pro Thr Leu Ser Pro Phe Val Leu Met Ser Cys	864

275	280	285	
gac ccc agt gta tac agg ttt tgt ttt gcc tgg aaa aga tga			906
Asp Pro Ser Val Tyr Arg Phe Cys Phe Ala Trp Lys Arg			
290	295	300	

<210> 4

<211> 301

<212> PRT

<213> Homo sapiens

<400> 4

Met	Ala	Ser	Arg	Tyr	Val	Ala	Val	Gly	Met	Ile	Leu	Ser	Gln	Thr	Val
1				5					10					15	

Val	Gly	Val	Leu	Gly	Ser	Phe	Ser	Val	Leu	Leu	His	Tyr	Leu	Ser	Phe
			20					25					30		

Tyr	Cys	Thr	Gly	Cys	Arg	Leu	Arg	Ser	Thr	Asp	Leu	Ile	Val	Lys	His
		35					40					45			

Leu	Ile	Val	Ala	Asn	Phe	Leu	Ala	Leu	Arg	Cys	Lys	Gly	Val	Pro	Gln
50						55					60				

Thr	Met	Ala	Ala	Phe	Gly	Val	Arg	Tyr	Phe	Leu	Asn	Ala	Leu	Gly	Cys
65					70					75					80

Lys	Leu	Val	Phe	Tyr	Leu	His	Arg	Val	Gly	Arg	Gly	Val	Ser	Ile	Gly
			85						90					95	

Thr	Thr	Cys	Leu	Leu	Ser	Val	Phe	Gln	Val	Ile	Thr	Val	Ser	Ser	Arg
			100					105					110		

Lys	Ser	Arg	Trp	Ala	Lys	Leu	Lys	Glu	Lys	Ala	Pro	Lys	His	Val	Gly
		115					120					125			

Phe	Ser	Val	Leu	Leu	Cys	Trp	Ile	Val	Cys	Met	Leu	Val	Asn	Ile	Ile
		130				135					140				

Phe	Pro	Met	Tyr	Val	Thr	Gly	Lys	Trp	Asn	Tyr	Thr	Asn	Ile	Thr	Val
145					150					155					160

Asn	Glu	Asp	Leu	Gly	Tyr	Cys	Ser	Gly	Gly	Gly	Asn	Asn	Lys	Ile	Ala
			165						170					175	

Gln	Thr	Leu	Arg	Ala	Met	Leu	Leu	Ser	Phe	Pro	Asp	Val	Leu	Cys	Leu
			180					185					190		

Gly Leu Met Leu Trp Val Ser Ser Ser Met Val Cys Ile Leu His Arg
 195 200 205

His Lys Gln Arg Val Gln His Ile Asp Arg Ser Asn Leu Ser Pro Arg
 210 215 220

Ala Ser Pro Glu Asn Arg Ala Thr Gln Ser Ile Leu Ile Leu Val Ser
 225 230 235 240

Thr Phe Val Ser Ser Tyr Thr Leu Ser Cys Leu Phe Gln Val Cys Met
 245 250 255

Ala Leu Leu Asp Asn Pro Asn Ser Leu Leu Val Asn Thr Ser Ala Leu
 260 265 270

Met Ser Val Cys Phe Pro Thr Leu Ser Pro Phe Val Leu Met Ser Cys
 275 280 285

Asp Pro Ser Val Tyr Arg Phe Cys Phe Ala Trp Lys Arg
 290 295 300

<210> 5

<211> 981

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(978)

<223>

<400> 5

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 Met Cys Pro Leu Thr Leu Gln Val Thr Gly Leu Met Asn Val Ser Glu
 1 5 10 15

cca aat tcc agc ttt gct ttt gta aat gaa ttt ata ctc caa ggt ttc 96
 Pro Asn Ser Ser Phe Ala Phe Val Asn Glu Phe Ile Leu Gln Gly Phe
 20 25 30

tct tgt gag tgg aca att cag atc ttc ctc ttc tca ctc ttt act aca 144
 Ser Cys Glu Trp Thr Ile Gln Ile Phe Leu Phe Ser Leu Phe Thr Thr
 35 40 45

aca tat gca ctg act ata aca ggg aat gga gcc att gct ttt gtc ctg 192
 Thr Tyr Ala Leu Thr Ile Thr Gly Asn Gly Ala Ile Ala Phe Val Leu
 50 55 60

tgg tgt gac cgg cga ctt cac act ccc atg tac atg ttc ctg gga aat 240
 Trp Cys Asp Arg Arg Leu His Thr Pro Met Tyr Met Phe Leu Gly Asn

65	70	75	80	
ttc tcc ttt tta gag ata tgg tat gtc tct tct aca gtt ccc aag atg				288
Phe Ser Phe Leu Glu Ile Trp Tyr Val Ser Ser Thr Val Pro Lys Met	85	90	95	
ttg gtc aac ttc ctt tca gag aaa aaa aac atc tcc ttt gct gga tgt				336
Leu Val Asn Phe Leu Ser Glu Lys Lys Asn Ile Ser Phe Ala Gly Cys	100	105	110	
ttt ctc cag ttt tat ttc ttc ttc tct ttg ggt aca tca gaa tgc ttg				384
Phe Leu Gln Phe Tyr Phe Phe Phe Ser Leu Gly Thr Ser Glu Cys Leu	115	120	125	
ctt ttg act gtg atg gcc ttt gat cag tac ctt gct atc tgc cgt ccc				432
Leu Leu Thr Val Met Ala Phe Asp Gln Tyr Leu Ala Ile Cys Arg Pro	130	135	140	
ttg ctc tat cct aat atc atg act ggg cat ctc tat gcc aaa ctg gtc				480
Leu Leu Tyr Pro Asn Ile Met Thr Gly His Leu Tyr Ala Lys Leu Val	145	150	155	160
ata ctg tgc tgg gtt tgt gga ttt ctg tgg ttc ctg atc ccc att gtt				528
Ile Leu Cys Trp Val Cys Gly Phe Leu Trp Phe Leu Ile Pro Ile Val	165	170	175	
ctc atc tct cag atg ccc ttc tgt ggc cca aac att att gac cat gtt				576
Leu Ile Ser Gln Met Pro Phe Cys Gly Pro Asn Ile Ile Asp His Val	180	185	190	
gtg tgt gac cca ggg cca cga ttt gca ttg gat tgt gtt tct gcc cca				624
Val Cys Asp Pro Gly Pro Arg Phe Ala Leu Asp Cys Val Ser Ala Pro	195	200	205	
aga atc caa ctg ttt tgc tac act cta agc tca tta gtt att ttt ggt				672
Arg Ile Gln Leu Phe Cys Tyr Thr Leu Ser Ser Leu Val Ile Phe Gly	210	215	220	
aac ttc ctc ttt att att gga tcc tat act ctt gtc ctg aaa gct atg				720
Asn Phe Leu Phe Ile Ile Gly Ser Tyr Thr Leu Val Leu Lys Ala Met	225	230	235	240
ttg ggt atg cct tca agc act ggg aga cat aag gcc ttc tct acc tgt				768
Leu Gly Met Pro Ser Ser Thr Gly Arg His Lys Ala Phe Ser Thr Cys	245	250	255	
ggg tct cat ttg gct gtg gta tca ctg tgc tat agc tct ctt atg gtc				816
Gly Ser His Leu Ala Val Val Ser Leu Cys Tyr Ser Ser Leu Met Val	260	265	270	
atg tat gtg agc cca gga ctc gga cat tct aca ggg atg cag aaa att				864
Met Tyr Val Ser Pro Gly Leu Gly His Ser Thr Gly Met Gln Lys Ile	275	280	285	
gaa act ttg ttc tat gct atg gtg acc cca ctc ttc aat ccc ctt atc				912
Glu Thr Leu Phe Tyr Ala Met Val Thr Pro Leu Phe Asn Pro Leu Ile	290	295	300	
tat agc ctc cag aat aag gag ata aag gca gcc ctg agg aaa gtt ctg				960
Tyr Ser Leu Gln Asn Lys Glu Ile Lys Ala Ala Leu Arg Lys Val Leu	305	310	315	320
ggg agt tcc aac ata atc taa				981
Gly Ser Ser Asn Ile Ile	325			

<210> 6

<211> 326

<212> PRT

<213> Homo Sapiens

<400> 6

Met Cys Pro Leu Thr Leu Gln Val Thr Gly Leu Met Asn Val Ser Glu
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Pro Asn Ser Ser Phe Ala Phe Val Asn Glu Phe Ile Leu Gln Gly Phe
 20 25 30

Ser Cys Glu Trp Thr Ile Gln Ile Phe Leu Phe Ser Leu Phe Thr Thr
 35 40 45

Thr Tyr Ala Leu Thr Ile Thr Gly Asn Gly Ala Ile Ala Phe Val Leu
 50 55 60

Trp Cys Asp Arg Arg Leu His Thr Pro Met Tyr Met Phe Leu Gly Asn
 65 70 75 80

Phe Ser Phe Leu Glu Ile Trp Tyr Val Ser Ser Thr Val Pro Lys Met
 85 90 95

Leu Val Asn Phe Leu Ser Glu Lys Lys Asn Ile Ser Phe Ala Gly Cys
 100 105 110

Phe Leu Gln Phe Tyr Phe Phe Phe Ser Leu Gly Thr Ser Glu Cys Leu
 115 120 125

Leu Leu Thr Val Met Ala Phe Asp Gln Tyr Leu Ala Ile Cys Arg Pro
 130 135 140

Leu Leu Tyr Pro Asn Ile Met Thr Gly His Leu Tyr Ala Lys Leu Val
 145 150 155 160

Ile Leu Cys Trp Val Cys Gly Phe Leu Trp Phe Leu Ile Pro Ile Val
 165 170 175

Leu Ile Ser Gln Met Pro Phe Cys Gly Pro Asn Ile Ile Asp His Val
 180 185 190

Val Cys Asp Pro Gly Pro Arg Phe Ala Leu Asp Cys Val Ser Ala Pro
 195 200 205

Arg Ile Gln Leu Phe Cys Tyr Thr Leu Ser Ser Leu Val Ile Phe Gly
 210 215 220

Asn Phe Leu Phe Ile Ile Gly Ser Tyr Thr Leu Val Leu Lys Ala Met
225 230 235 240

Leu Gly Met Pro Ser Ser Thr Gly Arg His Lys Ala Phe Ser Thr Cys
245 250 255

Gly Ser His Leu Ala Val Val Ser Leu Cys Tyr Ser Ser Leu Met Val
260 265 270

Met Tyr Val Ser Pro Gly Leu Gly His Ser Thr Gly Met Gln Lys Ile
275 280 285

Glu Thr Leu Phe Tyr Ala Met Val Thr Pro Leu Phe Asn Pro Leu Ile
290 295 300

Tyr Ser Leu Gln Asn Lys Glu Ile Lys Ala Ala Leu Arg Lys Val Leu
305 310 315 320

Gly Ser Ser Asn Ile Ile
325

<210> 7

<211> 945

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(942)

<223>

<400> 7

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Met Gly Val Lys Asn His Ser Thr Val Thr Glu Phe Leu Leu Ser Gly
1 5 10 15

tta act gaa caa gca gag ctt cag ctg ccc ctc ttc tgc ctc ttc tta 96
Leu Thr Glu Gln Ala Glu Leu Gln Leu Pro Leu Phe Cys Leu Phe Leu
20 25 30

gga att tac aca gtt act gtg gtg gga aac ctc agc atg atc tca att 144
Gly Ile Tyr Thr Val Thr Val Val Gly Asn Leu Ser Met Ile Ser Ile
35 40 45

att agg ctg aat cgt caa ctt cat acc ccc atg tac tat ttc ctg agt 192
Ile Arg Leu Asn Arg Gln Leu His Thr Pro Met Tyr Tyr Phe Leu Ser
50 55 60

agt ttg tct ttt tta gat ttc tgc tat tct tct gtc att acc cct aaa 240

Ser 65	Leu	Ser	Phe	Leu	Asp 70	Phe	Cys	Tyr	Ser	Ser 75	Val	Ile	Thr	Pro	Lys 80	
atg	cta	tca	ggg	ttt	tta	tgc	aga	gat	aga	tcc	atc	tcc	tat	tct	gga	288
Met	Leu	Ser	Gly	Phe 85	Leu	Cys	Arg	Asp 90	Arg	Ser	Ile	Ser	Tyr	Ser	Gly	
tgc	atg	att	cag	ctg	ttt	ttt	ttc	tgt	ggt	tgt	ggt	att	tct	gaa	tgc	336
Cys	Met	Ile	Gln 100	Leu	Phe	Phe	Phe	Cys 105	Val	Cys	Val	Ile	Ser	Glu	Cys	
tac	atg	ctg	gca	gcc	atg	gcc	tgc	gat	cgc	tac	gtg	gcc	atc	tgc	agc	384
Tyr	Met	Leu	Ala 115	Ala	Met	Ala	Cys	Asp 120	Arg	Tyr	Val	Ala	Ile	Cys	Ser	
cca	ctg	ctc	tac	agg	gtc	atc	atg	tcc	cct	agg	gtc	tgt	tct	ctg	ctg	432
Pro	Leu	Leu	Tyr	Arg	Val	Ile	Met	Ser	Pro	Arg	Val	Cys	Ser	Leu	Leu	
gtg	gct	gct	gtc	ttc	tca	gta	ggc	ttc	act	gat	gct	gtg	atc	cat	gga	480
Val	Ala	Ala	Val	Phe	Ser 150	Val	Gly	Phe	Thr	Asp 155	Ala	Val	Ile	His	Gly 160	
ggc	tgt	ata	ctc	agg	ttg	tct	ttc	tgt	gga	tca	aac	atc	att	aaa	cat	528
Gly	Cys	Ile	Leu	Arg 165	Leu	Ser	Phe	Cys	Gly 170	Ser	Asn	Ile	Ile	Lys	His 175	
tat	ttc	tgt	gac	att	gtc	cct	ctt	att	aaa	ctc	tcc	tgc	tcc	agc	act	576
Tyr	Phe	Cys	Asp 180	Ile	Val	Pro	Leu	Ile 185	Lys	Leu	Ser	Cys	Ser	Ser	Thr 190	
tat	att	gat	gag	ctt	ttg	att	ttt	gtc	att	ggc	gga	ttt	aac	atg	gtg	624
Tyr	Ile	Asp	Glu 195	Leu	Leu	Ile	Phe	Val 200	Ile	Gly	Gly	Phe	Asn	Met	Val 205	
gcc	aca	agc	cta	aca	atc	att	att	tca	tat	gct	ttt	atc	ctc	acc	agc	672
Ala	Thr	Ser	Leu	Thr	Ile	Ile	Ile	Ser	Tyr	Ala	Phe	Ile	Leu	Thr	Ser	
atc	ctg	cgc	atc	cac	tct	aaa	aag	ggc	agg	tgc	aaa	gcg	ttt	agc	acc	720
Ile	Leu	Arg	Ile	His	Ser 230	Lys	Lys	Gly	Arg	Cys 235	Lys	Ala	Phe	Ser	Thr 240	
tgt	agc	tcc	cac	ctg	aca	gct	ggt	ctt	atg	ttt	tat	ggg	tct	ctg	atg	768
Cys	Ser	Ser	His	Leu 245	Thr	Ala	Val	Leu	Met 250	Phe	Tyr	Gly	Ser	Leu	Met 255	
tcc	atg	tat	ctc	aaa	cct	gct	tct	agc	agt	tca	ctc	acc	cag	gag	aaa	816
Ser	Met	Tyr	Leu	Lys 260	Pro	Ala	Ser	Ser 265	Ser	Ser	Leu	Thr	Gln	Glu	Lys 270	
gta	tcc	tca	gta	ttt	tat	acc	act	gtg	att	ctc	atg	ttg	aat	ccc	ttg	864
Val	Ser	Ser	Val	Phe	Tyr	Thr	Thr	Val 280	Ile	Leu	Met	Leu	Asn	Pro	Leu 285	
ata	tat	agt	ctg	agg	aac	aat	gaa	gta	aga	aat	gct	ctg	atg	aaa	ctt	912
Ile	Tyr	Ser	Leu	Arg	Asn 295	Asn	Glu	Val	Arg	Asn	Ala 300	Leu	Met	Lys	Leu	
tta	aga	aga	aaa	ata	tct	tta	tct	cca	gga	taa						945
Leu	Arg	Arg	Lys	Ile	Ser 310	Leu	Ser	Pro	Gly							

<210> 8

<211> 314

<212> PRT

<213> Homo Sapiens

<400> 8

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Met Gly Val Lys Asn His Ser Thr Val Thr Glu Phe Leu Leu Ser Gly
1          5          10          15
.
Leu Thr Glu Gln Ala Glu Leu Gln Leu Pro Leu Phe Cys Leu Phe Leu
20          25          30
.
Gly Ile Tyr Thr Val Thr Val Val Gly Asn Leu Ser Met Ile Ser Ile
35          40          45
.
Ile Arg Leu Asn Arg Gln Leu His Thr Pro Met Tyr Tyr Phe Leu Ser
50          55          60
.
Ser Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Val Ile Thr Pro Lys
65          70          75          80
.
Met Leu Ser Gly Phe Leu Cys Arg Asp Arg Ser Ile Ser Tyr Ser Gly
85          90          95
.
Cys Met Ile Gln Leu Phe Phe Phe Cys Val Cys Val Ile Ser Glu Cys
100          105          110
.
Tyr Met Leu Ala Ala Met Ala Cys Asp Arg Tyr Val Ala Ile Cys Ser
115          120          125
.
Pro Leu Leu Tyr Arg Val Ile Met Ser Pro Arg Val Cys Ser Leu Leu
130          135          140
.
Val Ala Ala Val Phe Ser Val Gly Phe Thr Asp Ala Val Ile His Gly
145          150          155          160
.
Gly Cys Ile Leu Arg Leu Ser Phe Cys Gly Ser Asn Ile Ile Lys His
165          170          175
.
Tyr Phe Cys Asp Ile Val Pro Leu Ile Lys Leu Ser Cys Ser Ser Thr
180          185          190
.
Tyr Ile Asp Glu Leu Leu Ile Phe Val Ile Gly Gly Phe Asn Met Val
195          200          205
.
Ala Thr Ser Leu Thr Ile Ile Ile Ser Tyr Ala Phe Ile Leu Thr Ser
210          215          220
.
Ile Leu Arg Ile His Ser Lys Lys Gly Arg Cys Lys Ala Phe Ser Thr
225          230          235          240
.

```

Cys Ser Ser His Leu Thr Ala Val Leu Met Phe Tyr Gly Ser Leu Met
 245 250 255

Ser Met Tyr Leu Lys Pro Ala Ser Ser Ser Ser Leu Thr Gln Glu Lys
 260 265 270

Val Ser Ser Val Phe Tyr Thr Thr Val Ile Leu Met Leu Asn Pro Leu
 275 280 285

Ile Tyr Ser Leu Arg Asn Asn Glu Val Arg Asn Ala Leu Met Lys Leu
 290 295 300

Leu Arg Arg Lys Ile Ser Leu Ser Pro Gly
 305 310

<210> 9

<211> 957

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(954)

<223>

<400> 9

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Met Asn Pro Ala Asn His Ser Gln Val Ala Gly Phe Val Leu Leu Gly	
1 5 10 15	
ctc tct cag gtt tgg gag ctt cgg ttt gtt ttc ttc act gtt ttc tct	96
Leu Ser Gln Val Trp Glu Leu Arg Phe Val Phe Phe Thr Val Phe Ser	
20 25 30	
gct gtg tat ttt atg act gta gtg gga aac ctt ctt att gtg gtc ata	144
Ala Val Tyr Phe Met Thr Val Val Gly Asn Leu Leu Ile Val Val Ile	
35 40 45	
gtg acc tcc gac cca cac ctg cac aca acc atg tat ttt gtc ttg ggc	192
Val Thr Ser Asp Pro His Leu His Thr Thr Met Tyr Phe Leu Leu Gly	
50 55 60	
aat ctt tct ttc ctg gac ttt tgc tac tct tcc atc aca gca cct agg	240
Asn Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Ile Thr Ala Pro Arg	
65 70 75 80	
atg ctg gtt gac ttg ctc tca ggc aac cct acc att tcc ttt ggt gga	288
Met Leu Val Asp Leu Leu Ser Gly Asn Pro Thr Ile Ser Phe Gly Gly	
85 90 95	
tgc ctg act caa ctc ttc ttc ttc cac ttc att gga ggc atc aag atc	336

Cys	Leu	Thr	Gln	Leu	Phe	Phe	Phe	His	Phe	Ile	Gly	Gly	Ile	Lys	Ile		
			100					105					110				
ttc	ctg	ctg	act	gtc	atg	gcg	tat	gac	cgc	tac	att	gcc	att	tcc	cag		384
Phe	Leu	Leu	Thr	Val	Met	Ala	Tyr	Asp	Arg	Tyr	Ile	Ala	Ile	Ser	Gln		
		115					120					125					
ccc	ctg	cac	tac	acg	ctc	att	atg	aat	cag	act	gtc	tgt	gca	ctc	ctt		432
Pro	Leu	His	Tyr	Thr	Leu	Ile	Met	Asn	Gln	Thr	Val	Cys	Ala	Leu	Leu		
	130					135					140						
atg	gca	gcc	tcc	tgg	gtg	ggg	ggc	ttc	atc	cac	tcc	ata	gta	cag	att		480
Met	Ala	Ala	Ser	Trp	Val	Gly	Gly	Phe	Ile	His	Ser	Ile	Val	Gln	Ile		
145					150				155						160		
gca	ttg	act	atc	cag	ctg	cca	ttc	tgt	ggg	cct	gac	aag	ctg	gac	aac		528
Ala	Leu	Thr	Ile	Gln	Leu	Pro	Phe	Cys	Gly	Pro	Asp	Lys	Leu	Asp	Asn		
			165					170						175			
ttt	tat	tgt	gat	gtg	cct	cag	ctg	atc	aaa	ttg	gcc	tgc	aca	gat	acc		576
Phe	Tyr	Cys	Asp	Val	Pro	Gln	Leu	Ile	Lys	Leu	Ala	Cys	Thr	Asp	Thr		
			180					185					190				
ttt	gtc	tta	gag	ctt	tta	atg	gtg	tct	aac	aat	ggc	ctg	gtg	acc	ctg		624
Phe	Val	Leu	Glu	Leu	Leu	Met	Val	Ser	Asn	Asn	Gly	Leu	Val	Thr	Leu		
	195					200					205						
atg	tgt	ttt	ctg	gtg	ctt	ctg	gga	tcg	tac	aca	gca	ctg	cta	gtc	atg		672
Met	Cys	Phe	Leu	Val	Leu	Leu	Gly	Ser	Tyr	Thr	Ala	Leu	Leu	Val	Met		
	210				215					220							
ctc	cga	agc	cac	tca	cgg	gag	ggc	cgc	agc	aag	gcc	ctg	tct	acc	tgt		720
Leu	Arg	Ser	His	Ser	Arg	Glu	Gly	Arg	Ser	Lys	Ala	Leu	Ser	Thr	Cys		
225					230				235						240		
gcc	tct	cac	att	gct	gtg	gtg	acc	tta	atc	ttt	gtg	cct	tgc	atc	tac		768
Ala	Ser	His	Ile	Ala	Val	Val	Thr	Leu	Ile	Phe	Val	Pro	Cys	Ile	Tyr		
			245					250						255			
gtc	tat	aca	agg	cct	ttt	cgg	aca	ttc	ccc	atg	gac	aag	gcc	gtc	tct		816
Val	Tyr	Thr	Arg	Pro	Phe	Arg	Thr	Phe	Pro	Met	Asp	Lys	Ala	Val	Ser		
			260					265					270				
gtg	cta	tac	aca	att	gtc	acc	ccc	atg	ctg	aat	cct	gcc	atc	tat	acc		864
Val	Leu	Tyr	Thr	Ile	Val	Thr	Pro	Met	Leu	Asn	Pro	Ala	Ile	Tyr	Thr		
		275					280				285						
ctg	aga	aac	aag	gaa	gtg	atc	atg	gcc	atg	aag	aag	ctg	tgg	agg	agg		912
Leu	Arg	Asn	Lys	Glu	Val	Ile	Met	Ala	Met	Lys	Lys	Leu	Trp	Arg	Arg		
	290					295				300							
aaa	aag	gac	cct	att	ggg	ccc	ctg	gag	cac	aga	ccc	tta	cat	tag			957
Lys	Lys	Asp	Pro	Ile	Gly	Pro	Leu	Glu	His	Arg	Pro	Leu	His				
305					310				315								

<210> 10

<211> 318

<212> PRT

<213> Homo Sapiens

<400> 10

Met Asn Pro Ala Asn His Ser Gln Val Ala Gly Phe Val Leu Leu Gly
 1 5 10 15
 Leu Ser Gln Val Trp Glu Leu Arg Phe Val Phe Phe Thr Val Phe Ser
 20 25 30
 Ala Val Tyr Phe Met Thr Val Val Gly Asn Leu Leu Ile Val Val Ile
 35 40 45
 Val Thr Ser Asp Pro His Leu His Thr Thr Met Tyr Phe Leu Leu Gly
 50 55 60
 Asn Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Ile Thr Ala Pro Arg
 65 70 75 80
 Met Leu Val Asp Leu Leu Ser Gly Asn Pro Thr Ile Ser Phe Gly Gly
 85 90 95
 Cys Leu Thr Gln Leu Phe Phe Phe His Phe Ile Gly Gly Ile Lys Ile
 100 105 110
 Phe Leu Leu Thr Val Met Ala Tyr Asp Arg Tyr Ile Ala Ile Ser Gln
 115 120 125
 Pro Leu His Tyr Thr Leu Ile Met Asn Gln Thr Val Cys Ala Leu Leu
 130 135 140
 Met Ala Ala Ser Trp Val Gly Gly Phe Ile His Ser Ile Val Gln Ile
 145 150 155 160
 Ala Leu Thr Ile Gln Leu Pro Phe Cys Gly Pro Asp Lys Leu Asp Asn
 165 170 175
 Phe Tyr Cys Asp Val Pro Gln Leu Ile Lys Leu Ala Cys Thr Asp Thr
 180 185 190
 Phe Val Leu Glu Leu Leu Met Val Ser Asn Asn Gly Leu Val Thr Leu
 195 200 205
 Met Cys Phe Leu Val Leu Leu Gly Ser Tyr Thr Ala Leu Leu Val Met
 210 215 220
 Leu Arg Ser His Ser Arg Glu Gly Arg Ser Lys Ala Leu Ser Thr Cys
 225 230 235 240
 Ala Ser His Ile Ala Val Val Thr Leu Ile Phe Val Pro Cys Ile Tyr
 245 250 255
 Val Tyr Thr Arg Pro Phe Arg Thr Phe Pro Met Asp Lys Ala Val Ser
 260 265 270

Val Leu Tyr Thr Ile Val Thr Pro Met Leu Asn Pro Ala Ile Tyr Thr
 275 280 285

Leu Arg Asn Lys Glu Val Ile Met Ala Met Lys Lys Leu Trp Arg Arg
 290 295 300

Lys Lys Asp Pro Ile Gly Pro Leu Glu His Arg Pro Leu His
 305 310 315

<210> 11

<211> 999

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(996)

<223>

<400> 11

atg tta gag ggt gtt gag cat ctc ctt ctg cta ctt ctt ttg aca gat	48
Met Leu Glu Gly Val Glu His Leu Leu Leu Leu Leu Leu Thr Asp	
1 5 10 15	
gtg aac agc aag gaa ctg caa agt gga aac cag act tct gtg tct cac	96
Val Asn Ser Lys Glu Leu Gln Ser Gly Asn Gln Thr Ser Val Ser His	
20 25 30	
ttc att ttg gtg ggc ctg cac cac cca cca cag ctg gga gcg cca ctc	144
Phe Ile Leu Val Gly Leu His His Pro Pro Gln Leu Gly Ala Pro Leu	
35 40 45	
ttc tta gct ttc ctt gtc atc tat ctc ctc act gtt tct gga aat ggg	192
Phe Leu Ala Phe Leu Val Ile Tyr Leu Leu Thr Val Ser Gly Asn Gly	
50 55 60	
ctc atc atc ctc act gtc tta gtg gac atc cgg ctc cat cgt ccc atg	240
Leu Ile Ile Leu Thr Val Leu Val Asp Ile Arg Leu His Arg Pro Met	
65 70 75 80	
tgc ttg ttc ctg tgt cac ctc tcc ttc ttg gac atg acc att tct tgt	288
Cys Leu Phe Leu Cys His Leu Ser Phe Leu Asp Met Thr Ile Ser Cys	
85 90 95	
gct att gtc ccc aag atg ctg gct ggc ttt ctc ttg ggt agt agg att	336
Ala Ile Val Pro Lys Met Leu Ala Gly Phe Leu Leu Gly Ser Arg Ile	
100 105 110	
atc tcc ttt ggg ggc tgt gta atc caa cta ttt tct ttc cat ttc ctg	384
Ile Ser Phe Gly Gly Cys Val Ile Gln Leu Phe Ser Phe His Phe Leu	
115 120 125	

ggc tgt act gag tgc ttc ctt tac aca ctc atg gct tat gac cgt ttc 432
 Gly Cys Thr Glu Cys Phe Leu Tyr Thr Leu Met Ala Tyr Asp Arg Phe
 130 135 140

ctt gcc att tgt aag ccc tta cac tat gct acc atc atg acc cac aga 480
 Leu Ala Ile Cys Lys Pro Leu His Tyr Ala Thr Ile Met Thr His Arg
 145 150 155 160

gtc tgt aac tcc ctg gct tta ggc acc tgg ctg gga ggg act atc cat 528
 Val Cys Asn Ser Leu Ala Leu Gly Thr Trp Leu Gly Gly Thr Ile His
 165 170 175

tca ctt ttc caa aca agt ttt gta ttc cgg ctg ccc ttc tgt ggc ccc 576
 Ser Leu Phe Gln Thr Ser Phe Val Phe Arg Leu Pro Phe Cys Gly Pro
 180 185 190

aat cgg gtc gac tac atc ttc tgt gac att cct gcc atg ctg cgt cta 624
 Asn Arg Val Asp Tyr Ile Phe Cys Asp Ile Pro Ala Met Leu Arg Leu
 195 200 205

gcc tgc gcc gat acg gcc atc aac gag ctg gtc acc ttt gca gac att 672
 Ala Cys Ala Asp Thr Ala Ile Asn Glu Leu Val Thr Phe Ala Asp Ile
 210 215 220

ggc ttc ctg gcc ctc acc tgc ttc atg ctc atc ctc act tcc tat ggc 720
 Gly Phe Leu Ala Leu Thr Cys Phe Met Leu Ile Leu Thr Ser Tyr Gly
 225 230 235 240

tat att gta gct gcc atc ctg cga att ccg tca gca gat ggg cgc cgc 768
 Tyr Ile Val Ala Ala Ile Leu Arg Ile Pro Ser Ala Asp Gly Arg Arg
 245 250 255

aat gcc ttc tcc act tgt gct gcc cac ctc act gtt gtc att gtt tac 816
 Asn Ala Phe Ser Thr Cys Ala Ala His Leu Thr Val Val Ile Val Tyr
 260 265 270

tat gtg ccc tgc acc ttc att tac ctg cgg cct tgt tca cag gag ccc 864
 Tyr Val Pro Cys Thr Phe Ile Tyr Leu Arg Pro Cys Ser Gln Glu Pro
 275 280 285

ctg gat ggg gtg gta gct gtc ttt tac act gtc atc act ccc ttg ctt 912
 Leu Asp Gly Val Val Ala Val Phe Tyr Thr Val Ile Thr Pro Leu Leu
 290 295 300

aac tcc atc atc tac aca ctg tgc aac aaa gaa atg aag gca gca tta 960
 Asn Ser Ile Ile Tyr Thr Leu Cys Asn Lys Glu Met Lys Ala Ala Leu
 305 310 315 320

cag agg cta ggg ggc cac aag gaa gtg cag cct cac tga 999
 Gln Arg Leu Gly Gly His Lys Glu Val Gln Pro His
 325 330

<210> 12

<211> 332

<212> PRT

<213> Homo Sapiens

<400> 12

Met Leu Glu Gly Val Glu His Leu Leu Leu Leu Leu Leu Thr Asp
 1 5 10 15

Val Asn Ser Lys Glu Leu Gln Ser Gly Asn Gln Thr Ser Val Ser His
 20 25 30

Phe Ile Leu Val Gly Leu His His Pro Pro Gln Leu Gly Ala Pro Leu
 35 40 45

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

Leu Ile Ile Leu Thr Val Leu Val Asp Ile Arg Leu His Arg Pro Met
 65 70 75 80

Cys Leu Phe Leu Cys His Leu Ser Phe Leu Asp Met Thr Ile Ser Cys
 85 90 95

Ala Ile Val Pro Lys Met Leu Ala Gly Phe Leu Leu Gly Ser Arg Ile
 100 105 110

Ile Ser Phe Gly Gly Cys Val Ile Gln Leu Phe Ser Phe His Phe Leu
 115 120 125

Gly Cys Thr Glu Cys Phe Leu Tyr Thr Leu Met Ala Tyr Asp Arg Phe
 130 135 140

Leu Ala Ile Cys Lys Pro Leu His Tyr Ala Thr Ile Met Thr His Arg
 145 150 155 160

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

Ser Leu Phe Gln Thr Ser Phe Val Phe Arg Leu Pro Phe Cys Gly Pro
 180 185 190

Asn Arg Val Asp Tyr Ile Phe Cys Asp Ile Pro Ala Met Leu Arg Leu
 195 200 205

Ala Cys Ala Asp Thr Ala Ile Asn Glu Leu Val Thr Phe Ala Asp Ile
 210 215 220

Gly Phe Leu Ala Leu Thr Cys Phe Met Leu Ile Leu Thr Ser Tyr Gly
 225 230 235 240

Tyr Ile Val Ala Ala Ile Leu Arg Ile Pro Ser Ala Asp Gly Arg Arg
 245 250 255

Asn Ala Phe Ser Thr Cys Ala Ala His Leu Thr Val Val Ile Val Tyr
 260 265 270

Tyr Val Pro Cys Thr Phe Ile Tyr Leu Arg Pro Cys Ser Gln Glu Pro

275	280	285
Leu Asp Gly Val Val Ala Val Phe Tyr Thr Val Ile Thr Pro Leu Leu		
290	295	300
Asn Ser Ile Ile Tyr Thr Leu Cys Asn Lys Glu Met Lys Ala Ala Leu		
305	310	315
Gln Arg Leu Gly Gly His Lys Glu Val Gln Pro His		
	325	330

<210> 13

<211> 876

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(873)

<223>

<400> 13	
atg gag agc ccc aat cga acc acc att cag gag ttt atc ttc tcc gct	48
Met Glu Ser Pro Asn Arg Thr Thr Ile Gln Glu Phe Ile Phe Ser Ala	
1 5 10 15	
ttc cct tat tcc tgg gtt aag tct gtt gtc tgc ttt gtt cca ctg ctc	96
Phe Pro Tyr Ser Trp Val Lys Ser Val Val Cys Phe Val Pro Leu Leu	
20 25 30	
ttc atc tat gct ttc att gtt gtt gga aac ctg gtc atc atc aca gtg	144
Phe Ile Tyr Ala Phe Ile Val Val Gly Asn Leu Val Ile Ile Thr Val	
35 40 45	
gtc cag ttg aat act cac ctc cac act ccc atg tat act ttt atc agt	192
Val Gln Leu Asn Thr His Leu His Thr Pro Met Tyr Thr Phe Ile Ser	
50 55 60	
gct ctt tct ttc ctg gag att tgg tat acc aca gcc aca atc cca aag	240
Ala Leu Ser Phe Leu Glu Ile Trp Tyr Thr Thr Ala Thr Ile Pro Lys	
65 70 75 80	
atg ctg tct agc ctg ctt agt gag agg agc att tcc ttc aat ggt tgt	288
Met Leu Ser Ser Leu Leu Ser Glu Arg Ser Ile Ser Phe Asn Gly Cys	
85 90 95	
ctc ctg cag atg tat ttc ttc cat tcc acc ggc atc tgt gag gtg tgt	336
Leu Leu Gln Met Tyr Phe Phe His Ser Thr Gly Ile Cys Glu Val Cys	
100 105 110	
ctc ttg aca gtt atg gcc ttt gac cac tac ctg gcc ata tgc agc cct	384
Leu Leu Thr Val Met Ala Phe Asp His Tyr Leu Ala Ile Cys Ser Pro	
115 120 125	

ctt cat tat ccc tct atc atg acc ccc aag cta tgt acc caa ctg act	432
Leu His Tyr Pro Ser Ile Met Thr Pro Lys Leu Cys Thr Gln Leu Thr	
130 135 140	
tta agt tgc tgt gtt tgt ggc ttt atc aca ccc ctt cct gag att gcc	480
Leu Ser Cys Cys Val Cys Gly Phe Ile Thr Pro Leu Pro Glu Ile Ala	
145 150 155 160	
tgg atc tct aca ctg cca ttt tgt ggt tgc aat cac ctt gaa cat atc	528
Trp Ile Ser Thr Leu Pro Phe Cys Gly Ser Asn His Leu Glu His Ile	
165 170 175	
ttc tgt gac ttc ctc cca gtg ctg cgt ctg gcc tgc aca gac aca cga	576
Phe Cys Asp Phe Leu Pro Val Leu Arg Leu Ala Cys Thr Asp Thr Arg	
180 185 190	
gcc atc gtc atg att cag gta gtg gat gtc att cat gca gtg gag att	624
Ala Ile Val Met Ile Gln Val Val Asp Val Ile His Ala Val Glu Ile	
195 200 205	
att aca gct gtg atg ctc atc ttc atg tcc tac gat ggt att gtg gct	672
Ile Thr Ala Val Met Leu Ile Phe Met Ser Tyr Asp Gly Ile Val Ala	
210 215 220	
gta att cta cgt att cat tca gct gga ggc cgc cgg cac agc att ttc	720
Val Ile Leu Arg Ile His Ser Ala Gly Gly Arg Arg His Ser Ile Phe	
225 230 235 240	
cac gtg tgt ctc tca ctt cat tgt ctt ttc gct ctt ctt tgg cag tgt	768
His Val Cys Leu Ser Leu His Cys Leu Phe Ala Leu Leu Trp Gln Cys	
245 250 255	
gac tct cat gta cct acg ctt ctc tgc cac cta ctc ttt gtt ctg gga	816
Asp Ser His Val Pro Thr Leu Leu Cys His Leu Leu Phe Val Leu Gly	
260 265 270	
tat agc cat tgc tct ggc ctt tgc agt ttt gtc tcc ctt ctt caa ccc	864
Tyr Ser His Cys Ser Gly Leu Cys Ser Phe Val Ser Leu Leu Gln Pro	
275 280 285	
cat tat cta tag	876
His Tyr Leu	
290	

<210> 14

<211> 291

<212> PRT

<213> Homo Sapiens

<400> 14

Met Glu Ser Pro Asn Arg Thr Thr Ile Gln Glu Phe Ile Phe Ser Ala
1 5 10 15

Phe Pro Tyr Ser Trp Val Lys Ser Val Val Cys Phe Val Pro Leu Leu
20 25 30

Phe Ile Tyr Ala Phe Ile Val Val Gly Asn Leu Val Ile Ile Thr Val

35	40	45
Val Gln Leu Asn Thr His Leu His Thr Pro Met Tyr Thr Phe Ile Ser 50 55 60		
Ala Leu Ser Phe Leu Glu Ile Trp Tyr Thr Thr Ala Thr Ile Pro Lys 65 70 75 80		
Met Leu Ser Ser Leu Leu Ser Glu Arg Ser Ile Ser Phe Asn Gly Cys 85 90 95		
Leu Leu Gln Met Tyr Phe Phe His Ser Thr Gly Ile Cys Glu Val Cys 100 105 110		
Leu Leu Thr Val Met Ala Phe Asp His Tyr Leu Ala Ile Cys Ser Pro 115 120 125		
Leu His Tyr Pro Ser Ile Met Thr Pro Lys Leu Cys Thr Gln Leu Thr 130 135 140		
Leu Ser Cys Cys Val Cys Gly Phe Ile Thr Pro Leu Pro Glu Ile Ala 145 150 155 160		
Trp Ile Ser Thr Leu Pro Phe Cys Gly Ser Asn His Leu Glu His Ile 165 170 175		
Phe Cys Asp Phe Leu Pro Val Leu Arg Leu Ala Cys Thr Asp Thr Arg 180 185 190		
Ala Ile Val Met Ile Gln Val Val Asp Val Ile His Ala Val Glu Ile 195 200 205		
Ile Thr Ala Val Met Leu Ile Phe Met Ser Tyr Asp Gly Ile Val Ala 210 215 220		
Val Ile Leu Arg Ile His Ser Ala Gly Gly Arg Arg His Ser Ile Phe 225 230 235 240		
His Val Cys Leu Ser Leu His Cys Leu Phe Ala Leu Leu Trp Gln Cys 245 250 255		
Asp Ser His Val Pro Thr Leu Leu Cys His Leu Leu Phe Val Leu Gly 260 265 270		
Tyr Ser His Cys Ser Gly Leu Cys Ser Phe Val Ser Leu Leu Gln Pro 275 280 285		
His Tyr Leu 290		

<210> 15
 <211> 939
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(936)
 <223>

<400> 15
 atg gac aca ggg aac tgg agc cag gta gca gaa ttc atc atc ttg ggc 48
 Met Asp Thr Gly Asn Trp Ser Gln Val Ala Glu Phe Ile Ile Leu Gly
 1 5 10 15

ttc ccc cat ctc cag ggt gtc cag att tat ctc ttc ctc ttg ttg ctt 96
 Phe Pro His Leu Gln Gly Val Gln Ile Tyr Leu Phe Leu Leu Leu Leu
 20 25 30

ctc att tac ctc atg act gtg ttg gga aac ctg ctg ata ttc ctg gtg 144
 Leu Ile Tyr Leu Met Thr Val Leu Gly Asn Leu Leu Ile Phe Leu Val
 35 40 45

gtc tgc ctg gac tcc cgg ctt cac aca ccc atg tac cac ttt gtc agc 192
 Val Cys Leu Asp Ser Arg Leu His Thr Pro Met Tyr His Phe Val Ser
 50 55 60

att ctc tcc ttc tca gag ctt ggc tat aca gct gcc acc atc cct aag 240
 Ile Leu Ser Phe Ser Glu Leu Gly Tyr Thr Ala Ala Thr Ile Pro Lys
 65 70 75 80

atg ctg gca aac ttg ctc agt gag aaa aag acc att tca ttc tct ggg 288
 Met Leu Ala Asn Leu Leu Ser Glu Lys Lys Thr Ile Ser Phe Ser Gly
 85 90 95

tgt ctc ctg cag atc tat ttc ttt cac tcc ctt gga gcg act gag tgc 336
 Cys Leu Leu Gln Ile Tyr Phe Phe His Ser Leu Gly Ala Thr Glu Cys
 100 105 110

tat ctc ctg aca gct atg gcc tac gat agg tat tta gcc atc tgc cgg 384
 Tyr Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Arg
 115 120 125

ccc ctc cac tac cca acc ctc atg acc cca aca ctt tgt gca gag att 432
 Pro Leu His Tyr Pro Thr Leu Met Thr Pro Thr Leu Cys Ala Glu Ile
 130 135 140

gcc att ggc tgt tgg ttg gga ggc ttg gct ggg cca gta gtt gaa att 480
 Ala Ile Gly Cys Trp Leu Gly Gly Leu Ala Gly Pro Val Val Glu Ile
 145 150 155 160

tcc ttg att tca cgc ctc cca ttc tgt ggc ccc aat cgc att cag cac 528
 Ser Leu Ile Ser Arg Leu Pro Phe Cys Gly Pro Asn Arg Ile Gln His
 165 170 175

gtc ttt tgt gac ttc cct cct gtg ctg agt ttg gct tgc act gat acg 576
 Val Phe Cys Asp Phe Pro Pro Val Leu Ser Leu Ala Cys Thr Asp Thr

180	185	190	
tct ata aat gtc cta gta gat ttt gtt ata aat tcc tgc aag atc cta Ser Ile Asn Val Leu Val Asp Phe Val Ile Asn Ser Cys Lys Ile Leu 195 200 205			624
gcc acc ttc ctg ctg atc ctc tgc tcc tat gtg cag atc atc tgc aca Ala Thr Phe Leu Leu Ile Leu Cys Ser Tyr Val Gln Ile Ile Cys Thr 210 215 220			672
gtg ctc aga att ccc tca gct gcc ggc aag agg aag gcc atc tcc acg Val Leu Arg Ile Pro Ser Ala Ala Gly Lys Arg Lys Ala Ile Ser Thr 225 230 235			720
tgt gcc tcc cac ttc act gtg gtt ctc atc ttc tat ggg agc atc ctt Cys Ala Ser His Phe Thr Val Val Leu Ile Phe Tyr Gly Ser Ile Leu 245 250 255			768
tcc atg tat gtg cag ctg aag aag agc tac tca ctg gac tat gac cag Ser Met Tyr Val Gln Leu Lys Lys Ser Tyr Ser Leu Asp Tyr Asp Gln 260 265 270			816
gcc ctg gca gtg gtc tac tca gtg ctc aca ccc ttc ctc aac ccc ttc Ala Leu Ala Val Val Tyr Ser Val Leu Thr Pro Phe Leu Asn Pro Phe 275 280 285			864
atc tac agc ttg cgc aac aag gag atc aag gag gct gtg agg agg cag Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Glu Ala Val Arg Arg Gln 290 295 300			912
cta aag aga att ggg ata ttg gca tga Leu Lys Arg Ile Gly Ile Leu Ala 305 310			939

<210> 16

<211> 312

<212> PRT

<213> Homo Sapiens

<400> 16

Met Asp Thr Gly Asn Trp Ser Gln Val Ala Glu Phe Ile Ile Leu Gly 1 5 10 15
Phe Pro His Leu Gln Gly Val Gln Ile Tyr Leu Phe Leu Leu Leu Leu 20 25 30
Leu Ile Tyr Leu Met Thr Val Leu Gly Asn Leu Leu Ile Phe Leu Val 35 40 45
Val Cys Leu Asp Ser Arg Leu His Thr Pro Met Tyr His Phe Val Ser 50 55 60
Ile Leu Ser Phe Ser Glu Leu Gly Tyr Thr Ala Ala Thr Ile Pro Lys 65 70 75 80

Met Leu Ala Asn Leu Leu Ser Glu Lys Lys Thr Ile Ser Phe Ser Gly
85 90 95

Cys Leu Leu Gln Ile Tyr Phe Phe His Ser Leu Gly Ala Thr Glu Cys
100 105 110

Tyr Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Arg
115 120 125

Pro Leu His Tyr Pro Thr Leu Met Thr Pro Thr Leu Cys Ala Glu Ile
130 135 140

Ala Ile Gly Cys Trp Leu Gly Gly Leu Ala Gly Pro Val Val Glu Ile
145 150 155 160

Ser Leu Ile Ser Arg Leu Pro Phe Cys Gly Pro Asn Arg Ile Gln His
165 170 175

Val Phe Cys Asp Phe Pro Pro Val Leu Ser Leu Ala Cys Thr Asp Thr
180 185 190

Ser Ile Asn Val Leu Val Asp Phe Val Ile Asn Ser Cys Lys Ile Leu
195 200 205

Ala Thr Phe Leu Leu Ile Leu Cys Ser Tyr Val Gln Ile Ile Cys Thr
210 215 220

Val Leu Arg Ile Pro Ser Ala Ala Gly Lys Arg Lys Ala Ile Ser Thr
225 230 235 240

Cys Ala Ser His Phe Thr Val Val Leu Ile Phe Tyr Gly Ser Ile Leu
245 250 255

Ser Met Tyr Val Gln Leu Lys Lys Ser Tyr Ser Leu Asp Tyr Asp Gln
260 265 270

Ala Leu Ala Val Val Tyr Ser Val Leu Thr Pro Phe Leu Asn Pro Phe
275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Glu Ala Val Arg Arg Gln
290 295 300

Leu Lys Arg Ile Gly Ile Leu Ala
305 310

<210> 17
<211> 945

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (942)

<223>

<400> 17

atg atg gca tct gaa aga aat caa agc agc aca ccc act ttt att ctc	48
Met Met Ala Ser Glu Arg Asn Gln Ser Ser Thr Pro Thr Phe Ile Leu	
1 5 10 15	
ttg ggt ttt tca gaa tac cca gaa atc cag gtt cca ctc ttt ctg gtt	96
Leu Gly Phe Ser Glu Tyr Pro Glu Ile Gln Val Pro Leu Phe Leu Val	
20 25 30	
ttc ttg ttc gtc tac aca gtc act gta gtg ggg aac ttg ggc atg ata	144
Phe Leu Phe Val Tyr Thr Val Thr Val Val Gly Asn Leu Gly Met Ile	
35 40 45	
ata atc atc aga ctc aat tca aaa ctc cat aca atc atg tac ttt ttc	192
Ile Ile Ile Arg Leu Asn Ser Lys Leu His Thr Ile Met Tyr Phe Phe	
50 55 60	
ctt agt cac ttg tcc ttg aca gac ttc tgt ttt tcc act gta gtt aca	240
Leu Ser His Leu Ser Leu Thr Asp Phe Cys Phe Ser Thr Val Val Thr	
65 70 75 80	
cct aaa ctg ttg gag aac ttg gtt gtg gaa tac aga acc atc tct ttc	288
Pro Lys Leu Leu Glu Asn Leu Val Val Glu Tyr Arg Thr Ile Ser Phe	
85 90 95	
tct ggt tgc atc atg caa ttt tgt ttt gct tgc att ttt gga gtg aca	336
Ser Gly Cys Ile Met Gln Phe Cys Phe Ala Cys Ile Phe Gly Val Thr	
100 105 110	
gaa act ttc atg tta gca gcg atg gct tat gac cgt ttt gtg gca gtt	384
Glu Thr Phe Met Leu Ala Ala Met Ala Tyr Asp Arg Phe Val Ala Val	
115 120 125	
tgt aaa ccc ttg ctg tat acc act att atg tct cag aag ctc tgt gct	432
Cys Lys Pro Leu Leu Tyr Thr Thr Ile Met Ser Gln Lys Leu Cys Ala	
130 135 140	
ctt ctg gtg gct ggg tcc tat aca tgg ggg ata gtg tgc tcc ctg ata	480
Leu Leu Val Ala Gly Ser Tyr Thr Trp Gly Ile Val Cys Ser Leu Ile	
145 150 155 160	
ctc aca tat ttt ctt ctt gac tta tcg ttt tgt gaa tct acc ttc ata	528
Leu Thr Tyr Phe Leu Leu Asp Leu Ser Phe Cys Glu Ser Thr Phe Ile	
165 170 175	
aat aat ttt atc tgt gac cac tct gta att gtt tct gcc tcc tac tca	576
Asn Asn Phe Ile Cys Asp His Ser Val Ile Val Ser Ala Ser Tyr Ser	
180 185 190	
gac ccc tat atc agc cag agg cta tgc ttt att att gcc ata ttc aat	624
Asp Pro Tyr Ile Ser Gln Arg Leu Cys Phe Ile Ile Ala Ile Phe Asn	
195 200 205	
gag gtg agc agc cta att atc att ctg aca tca tat atg ctt att ttc	672
Glu Val Ser Ser Leu Ile Ile Ile Leu Thr Ser Tyr Met Leu Ile Phe	

210	215	220	
act acc att atg aag atg cga tct gca agt ggg cgc cag aaa act ttc			720
Thr Thr Ile Met Lys Met Arg Ser Ala Ser Gly Arg Gln Lys Thr Phe			
225	230	235	240
tcc acc tgt gcc tcc cac ctg aca gcc atc act atc ttc cat gga act			768
Ser Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr			
	245	250	255
atc ctt ttc ctt tac tgt gtt cct aat cct aaa act tct agc ctc ata			816
Ile Leu Phe Leu Tyr Cys Val Pro Asn Pro Lys Thr Ser Ser Leu Ile			
	260	265	270
gtt aca gtg gct tct gtg ttt tac aca gtg gcg att cca atg ctg aac			864
Val Thr Val Ala Ser Val Phe Tyr Thr Val Ala Ile Pro Met Leu Asn			
	275	280	285
cca ttg atc tac agc ctt agg aac aaa gat atc aat aac atg ttt gaa			912
Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Ile Asn Asn Met Phe Glu			
	290	295	300
aaa tta gtt gtc acc aaa ttg att tac cac tga			945
Lys Leu Val Val Thr Lys Leu Ile Tyr His			
305	310		

<210> 18

<211> 314

<212> PRT

<213> Homo Sapiens

<400> 18

Met Met Ala Ser Glu Arg Asn Gln Ser Ser Thr Pro Thr Phe Ile Leu	
1	15
Leu Gly Phe Ser Glu Tyr Pro Glu Ile Gln Val Pro Leu Phe Leu Val	
	20 25 30
Phe Leu Phe Val Tyr Thr Val Thr Val Val Gly Asn Leu Gly Met Ile	
	35 40 45
Ile Ile Ile Arg Leu Asn Ser Lys Leu His Thr Ile Met Tyr Phe Phe	
	50 55 60
Leu Ser His Leu Ser Leu Thr Asp Phe Cys Phe Ser Thr Val Val Thr	
65	70 75 80
Pro Lys Leu Leu Glu Asn Leu Val Val Glu Tyr Arg Thr Ile Ser Phe	
	85 90 95
Ser Gly Cys Ile Met Gln Phe Cys Phe Ala Cys Ile Phe Gly Val Thr	
	100 105 110

Glu Thr Phe Met Leu Ala Ala Met Ala Tyr Asp Arg Phe Val Ala Val
 115 120 125

Cys Lys Pro Leu Leu Tyr Thr Thr Ile Met Ser Gln Lys Leu Cys Ala
 130 135 140

Leu Leu Val Ala Gly Ser Tyr Thr Trp Gly Ile Val Cys Ser Leu Ile
 145 150 155 160

Leu Thr Tyr Phe Leu Leu Asp Leu Ser Phe Cys Glu Ser Thr Phe Ile
 165 170 175

Asn Asn Phe Ile Cys Asp His Ser Val Ile Val Ser Ala Ser Tyr Ser
 180 185 190

Asp Pro Tyr Ile Ser Gln Arg Leu Cys Phe Ile Ile Ala Ile Phe Asn
 195 200 205

Glu Val Ser Ser Leu Ile Ile Ile Leu Thr Ser Tyr Met Leu Ile Phe
 210 215 220

Thr Thr Ile Met Lys Met Arg Ser Ala Ser Gly Arg Gln Lys Thr Phe
 225 230 235 240

Ser Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr
 245 250 255

Ile Leu Phe Leu Tyr Cys Val Pro Asn Pro Lys Thr Ser Ser Leu Ile
 260 265 270

Val Thr Val Ala Ser Val Phe Tyr Thr Val Ala Ile Pro Met Leu Asn
 275 280 285

Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Ile Asn Asn Met Phe Glu
 290 295 300

Lys Leu Val Val Thr Lys Leu Ile Tyr His
 305 310

<210> 19
 <211> 969

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (966)

<223>

<400> 19

atg gac aag ttg tca tca ggt ttg gat ata tac agg aat cca ctg aag	48
Met Asp Lys Leu Ser Ser Gly Leu Asp Ile Tyr Arg Asn Pro Leu Lys	
1 5 10 15	
aac aag act gaa gtc acc atg ttt ata ttg aca ggc ttc aca gat gat	96
Asn Lys Thr Glu Val Thr Met Phe Ile Leu Thr Gly Phe Thr Asp Asp	
20 25 30	
ttt gag ctg caa gtc ttc cta ttt tta cta ttt ttt gca atc tat ctc	144
Phe Glu Leu Gln Val Phe Leu Phe Leu Leu Phe Phe Ala Ile Tyr Leu	
35 40 45	
ttt acc ttg ata ggc aat tta ggg ctg gtt gtg ttg gtc att gag gat	192
Phe Thr Leu Ile Gly Asn Leu Gly Leu Val Val Leu Val Ile Glu Asp	
50 55 60	
tcc tgg ctc cac aac ccc atg tat tat ttt ctt agt gtt tta tca ttc	240
Ser Trp Leu His Asn Pro Met Tyr Tyr Phe Leu Ser Val Leu Ser Phe	
65 70 75 80	
ttg gat gct tgc tat tct aca gtt gtc act cca aaa atg ttg gtc aat	288
Leu Asp Ala Cys Tyr Ser Thr Val Val Thr Pro Lys Met Leu Val Asn	
85 90 95	
ttc ctg gca aaa aat aaa tcc att tca ttt atc gga tgt gca aca cag	336
Phe Leu Ala Lys Asn Lys Ser Ile Ser Phe Ile Gly Cys Ala Thr Gln	
100 105 110	
atg ctt ctt ttt gtt act ttt gga act aca gaa tgt ttt ctc ttg gct	384
Met Leu Leu Phe Val Thr Phe Gly Thr Thr Glu Cys Phe Leu Leu Ala	
115 120 125	
gca atg gct tat gat cac tat gta gcc atc tac aac cct ctc ctg tat	432
Ala Met Ala Tyr Asp His Tyr Val Ala Ile Tyr Asn Pro Leu Leu Tyr	
130 135 140	
tca gtg agc atg tca ccc aga gtc tat gtg cca ctc atc act gct tcc	480
Ser Val Ser Met Ser Pro Arg Val Tyr Val Pro Leu Ile Thr Ala Ser	
145 150 155 160	
tac gtt gct ggc att tta cat gct act ata cat ata gtg gct aca ttt	528
Tyr Val Ala Gly Ile Leu His Ala Thr Ile His Ile Val Ala Thr Phe	
165 170 175	
agc ctg tcc ttc tgt gga tcc aat gaa att agg cat gtc ttt tgt gat	576
Ser Leu Ser Phe Cys Gly Ser Asn Glu Ile Arg His Val Phe Cys Asp	
180 185 190	
atg cct cct ctc ctt gct att tct tgt tct gac act cac aca aac cag	624
Met Pro Pro Leu Leu Ala Ile Ser Cys Ser Asp Thr His Thr Asn Gln	
195 200 205	
ctt cta ctc ttc tac ttt gtg ggt tct att gag ata gtc act atc ctg	672
Leu Leu Leu Phe Tyr Phe Val Gly Ser Ile Glu Ile Val Thr Ile Leu	
210 215 220	
att gtc ctc att tcc tgt gat ttc att ctg ttg tcc att ctg aag atg	720
Ile Val Leu Ile Ser Cys Asp Phe Ile Leu Leu Ser Ile Leu Lys Met	
225 230 235 240	
cat tct gct aag gga agg caa aag gcc ttc tct aca tgt ggc tct cac	768
His Ser Ala Lys Gly Arg Gln Lys Ala Phe Ser Thr Cys Gly Ser His	

245										250					255					
cta	act	gga	gtg	aca	att	tat	cat	gga	aca	att	ctc	gtc	agt	tat	atg	816				
Leu	Thr	Gly	Val	Thr	Ile	Tyr	His	Gly	Thr	Ile	Leu	Val	Ser	Tyr	Met					
			260						265				270							
aga	cca	agt	tcc	agc	tat	gct	tca	gac	cat	gac	atc	ata	gtg	tca	ata	864				
Arg	Pro	Ser	Ser	Ser	Tyr	Ala	Ser	Asp	His	Asp	Ile	Ile	Val	Ser	Ile					
		275					280					285	.							
ttt	tac	aca	att	gtg	att	ccc	aag	ttg	aat	ccc	atc	atc	tat	agt	ttg	912				
Phe	Tyr	Thr	Ile	Val	Ile	Pro	Lys	Leu	Asn	Pro	Ile	Ile	Tyr	Ser	Leu					
	290					295				300										
agg	aac	aaa	gaa	gta	aaa	aag	gca	gtg	aag	aaa	atg	ttg	aaa	ttg	gtt	960				
Arg	Asn	Lys	Glu	Val	Lys	Lys	Ala	Val	Lys	Lys	Met	Leu	Lys	Leu	Val					
305					310					315					320					
tac	aaa	tga														969				
Tyr	Lys																			

<210> 20

<211> 322

<212> PRT

<213> Homo Sapiens

<400> 20

Met	Asp	Lys	Leu	Ser	Ser	Gly	Leu	Asp	Ile	Tyr	Arg	Asn	Pro	Leu	Lys
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Asn	Lys	Thr	Glu	Val	Thr	Met	Phe	Ile	Leu	Thr	Gly	Phe	Thr	Asp	Asp
			20					25					30		
Phe	Glu	Leu	Gln	Val	Phe	Leu	Phe	Leu	Leu	Phe	Phe	Ala	Ile	Tyr	Leu
	35						40					45			
Phe	Thr	Leu	Ile	Gly	Asn	Leu	Gly	Leu	Val	Val	Leu	Val	Ile	Glu	Asp
	50					55				60					
Ser	Trp	Leu	His	Asn	Pro	Met	Tyr	Tyr	Phe	Leu	Ser	Val	Leu	Ser	Phe
65					70				75						80
Leu	Asp	Ala	Cys	Tyr	Ser	Thr	Val	Val	Thr	Pro	Lys	Met	Leu	Val	Asn
			85						90					95	
Phe	Leu	Ala	Lys	Asn	Lys	Ser	Ile	Ser	Phe	Ile	Gly	Cys	Ala	Thr	Gln
			100					105					110		
Met	Leu	Leu	Phe	Val	Thr	Phe	Gly	Thr	Thr	Glu	Cys	Phe	Leu	Leu	Ala
	115						120					125	.		

Ala Met Ala Tyr Asp His Tyr Val Ala Ile Tyr Asn Pro Leu Leu Tyr
130 135 140

Ser Val Ser Met Ser Pro Arg Val Tyr Val Pro Leu Ile Thr Ala Ser
145 150 155 160

Tyr Val Ala Gly Ile Leu His Ala Thr Ile His Ile Val Ala Thr Phe
165 170 175

Ser Leu Ser Phe Cys Gly Ser Asn Glu Ile Arg His Val Phe Cys Asp
180 185 190

Met Pro Pro Leu Leu Ala Ile Ser Cys Ser Asp Thr His Thr Asn Gln
195 200 205

Leu Leu Leu Phe Tyr Phe Val Gly Ser Ile Glu Ile Val Thr Ile Leu
210 215 220

Ile Val Leu Ile Ser Cys Asp Phe Ile Leu Leu Ser Ile Leu Lys Met
225 230 235 240

His Ser Ala Lys Gly Arg Gln Lys Ala Phe Ser Thr Cys Gly Ser His
245 250 255

Leu Thr Gly Val Thr Ile Tyr His Gly Thr Ile Leu Val Ser Tyr Met
260 265 270

Arg Pro Ser Ser Ser Tyr Ala Ser Asp His Asp Ile Ile Val Ser Ile
275 280 285

Phe Tyr Thr Ile Val Ile Pro Lys Leu Asn Pro Ile Ile Tyr Ser Leu
290 295 300

Arg Asn Lys Glu Val Lys Lys Ala Val Lys Lys Met Leu Lys Leu Val
305 310 315 320

Tyr Lys

<210> 21
<211> 951

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(948)

<223>

<400> 21

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Met Ala Pro Glu Asn Phe Thr Arg Val Thr Glu Phe Ile Leu Thr Gly	
1 5 10 15	
gtc tct agc tgt cca gag ctc cag att ccc ctc ttc ctg gtc ttt ctg	96
Val Ser Ser Cys Pro Glu Leu Gln Ile Pro Leu Phe Leu Val Phe Leu	
20 25 30	
gtg ctc tat ggg ctg acc atg gca ggg aac ctg ggc atc atc acc ctc	144
Val Leu Tyr Gly Leu Thr Met Ala Gly Asn Leu Gly Ile Ile Thr Leu	
35 40 45	
acc agt gtt gac tct cga ctt caa acc ccc atg tac ttt ttc ctg caa	192
Thr Ser Val Asp Ser Arg Leu Gln Thr Pro Met Tyr Phe Phe Leu Gln	
50 55 60	
cat ctg gct ctc att aat ctt ggt aac tct act gtc att gcc cct aaa	240
His Leu Ala Leu Ile Asn Leu Gly Asn Ser Thr Val Ile Ala Pro Lys	
65 70 75 80	
atg ctg att aac ttt tta gta aag aag aaa act acc tca ttc tat gaa	288
Met Leu Ile Asn Phe Leu Val Lys Lys Lys Thr Thr Ser Phe Tyr Glu	
85 90 95	
tgt gcc acc caa ctg gga ggg ttc ttg ttc ttt att gta tcg gag gta	336
Cys Ala Thr Gln Leu Gly Gly Phe Leu Phe Phe Ile Val Ser Glu Val	
100 105 110	
atc atg ctg gct ttg atg gcc tgt gac cgc tat gtg gct att tgt aac	384
Ile Met Leu Ala Leu Met Ala Cys Asp Arg Tyr Val Ala Ile Cys Asn	
115 120 125	
cct ctg ctg tac atg gtg gtg gtg tct cgg cgg ctc tgc ctc ctg ctg	432
Pro Leu Leu Tyr Met Val Val Val Ser Arg Arg Leu Cys Leu Leu Leu	
130 135 140	
gtc tcc ctc aca tac ctc tat ggc ttt tct aca gct att gtg gtt tca	480
Val Ser Leu Thr Tyr Leu Tyr Gly Phe Ser Thr Ala Ile Val Val Ser	
145 150 155 160	
tct tat gta ttc tct gtg tct tat tgc tct tct aat ata atc aat cat	528
Ser Tyr Val Phe Ser Val Ser Tyr Cys Ser Ser Asn Ile Ile Asn His	
165 170 175	
ttt tac tgt gat aat gtt cct ctg tta gca tta tct tgc tct gat act	576
Phe Tyr Cys Asp Asn Val Pro Leu Leu Ala Leu Ser Cys Ser Asp Thr	
180 185 190	
tac tta cca gaa aca gtt gtc ttt ata tct gca gca aca aat gtg gtt	624
Tyr Leu Pro Glu Thr Val Val Phe Ile Ser Ala Ala Thr Asn Val Val	
195 200 205	
ggc tcc ttg att ata gtt cta gta tct tat ttc aat att gtt ttg tct	672
Gly Ser Leu Ile Ile Val Leu Val Ser Tyr Phe Asn Ile Val Leu Ser	
210 215 220	
att tta aaa ata tgt tca tca gaa gga agg aaa aaa gcc ttt tct acc	720
Ile Leu Lys Ile Cys Ser Ser Glu Gly Arg Lys Lys Ala Phe Ser Thr	
225 230 235 240	
tgt gct tca cat atg atg gca gtc aca att ttt tat ggg aca ttg cta	768
Cys Ala Ser His Met Met Ala Val Thr Ile Phe Tyr Gly Thr Leu Leu	

245										250					255					
ttc	atg	tat	gtg	cag	ccc	cga	agt	aac	cat	tca	ttg	gat	act	gat	gat		816			
Phe	Met	Tyr	Val	Gln	Pro	Arg	Ser	Asn	His	Ser	Leu	Asp	Thr	Asp	Asp					
			260					265					270							
aag	atg	gct	tct	gtg	ttt	tac	acg	ttg	gta	att	cct	atg	ctg	aat	ccc		864			
Lys	Met	Ala	Ser	Val	Phe	Tyr	Thr	Leu	Val	Ile	Pro	Met	Leu	Asn	Pro					
		275					280					285								
ttg	atc	tac	agc	ctg	agg	aat	aag	gat	gtg	aag	act	gct	cta	cag	aga		912			
Leu	Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Val	Lys	Thr	Ala	Leu	Gln	Arg					
		290				295					300									
ttc	atg	aca	aat	ctg	tgc	tat	tcc	ttt	aaa	aca	atg	taa					951			
Phe	Met	Thr	Asn	Leu	Cys	Tyr	Ser	Phe	Lys	Thr	Met									
305					310					315										

<210> 22

<211> 316

<212> PRT

<213> Homo Sapiens

<400> 22

Met	Ala	Pro	Glu	Asn	Phe	Thr	Arg	Val	Thr	Glu	Phe	Ile	Leu	Thr	Gly	
1				5					10					15		

Val	Ser	Ser	Cys	Pro	Glu	Leu	Gln	Ile	Pro	Leu	Phe	Leu	Val	Phe	Leu	
			20					25					30			

Val	Leu	Tyr	Gly	Leu	Thr	Met	Ala	Gly	Asn	Leu	Gly	Ile	Ile	Thr	Leu	
		35					40					45				

Thr	Ser	Val	Asp	Ser	Arg	Leu	Gln	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Gln	
	50					55					60					

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

Met	Leu	Ile	Asn	Phe	Leu	Val	Lys	Lys	Lys	Thr	Thr	Ser	Phe	Tyr	Glu	
				85					90					95		

Cys	Ala	Thr	Gln	Leu	Gly	Gly	Phe	Leu	Phe	Phe	Ile	Val	Ser	Glu	Val	
			100					105					110			

Ile	Met	Leu	Ala	Leu	Met	Ala	Cys	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Asn	
		115					120					125				

Pro	Leu	Leu	Tyr	Met	Val	Val	Val	Ser	Arg	Arg	Leu	Cys	Leu	Leu	Leu	
	130					135					140					

Val Ser Leu Thr Tyr Leu Tyr Gly Phe Ser Thr Ala Ile Val Val Ser
145 150 155 160

Ser Tyr Val Phe Ser Val Ser Tyr Cys Ser Ser Asn Ile Ile Asn His
165 170 175

Phe Tyr Cys Asp Asn Val Pro Leu Leu Ala Leu Ser Cys Ser Asp Thr
180 185 190

Tyr Leu Pro Glu Thr Val Val Phe Ile Ser Ala Ala Thr Asn Val Val
195 200 205

Gly Ser Leu Ile Ile Val Leu Val Ser Tyr Phe Asn Ile Val Leu Ser
210 215 220

Ile Leu Lys Ile Cys Ser Ser Glu Gly Arg Lys Lys Ala Phe Ser Thr
225 230 235 240

Cys Ala Ser His Met Met Ala Val Thr Ile Phe Tyr Gly Thr Leu Leu
245 250 255

Phe Met Tyr Val Gln Pro Arg Ser Asn His Ser Leu Asp Thr Asp Asp
260 265 270

Lys Met Ala Ser Val Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro
275 280 285

Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Thr Ala Leu Gln Arg
290 295 300

Phe Met Thr Asn Leu Cys Tyr Ser Phe Lys Thr Met
305 310 315

<210> 23

<211> 987

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(984)

<223>

<400> 23

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Met Lys Leu Trp Met Glu Ser His Leu Ile Val Pro Glu Thr Arg Pro

1	5	10	15	
agc cca agg atg atg agt aac cag acg ttg gta acc gag ttc atc ctg				96
Ser Pro Arg Met Met Ser Asn Gln Thr Leu Val Thr Glu Phe Ile Leu	20	25	30	
cag ggc ttt tcg gag cac cca gaa tac cgg gtg ttc tta ttc agc tgt				144
Gln Gly Phe Ser Glu His Pro Glu Tyr Arg Val Phe Leu Phe Ser Cys	35	40	45	
ttc ctc ttc ctc tac tct ggg gcc ctc aca ggt aat gtc ctc atc acc				192
Phe Leu Phe Leu Tyr Ser Gly Ala Leu Thr Gly Asn Val Leu Ile Thr	50	55	60	
ttg gcc atc acg ttc aac cct ggg ctc cac gct cct atg tac ttt ttc				240
Leu Ala Ile Thr Phe Asn Pro Gly Leu His Ala Pro Met Tyr Phe Phe	65	70	75	80
tta ctc aac ttg gct act atg gac att atc tgc acc tct tcc atc atg				288
Leu Leu Asn Leu Ala Thr Met Asp Ile Ile Cys Thr Ser Ser Ile Met	85	90	95	
ccc aag gcg ctg gcc agt ctg gtg tcg gaa gag agc tcc atc tcc tac				336
Pro Lys Ala Leu Ala Ser Leu Val Ser Glu Glu Ser Ser Ile Ser Tyr	100	105	110	
ggg ggc tgc atg gcc cag ctc tat ttc ctc acg tgg gct gca tcc tca				384
Gly Gly Cys Met Ala Gln Leu Tyr Phe Leu Thr Trp Ala Ala Ser Ser	115	120	125	
gag ctg ctg ctc ctc acg gtc atg gcc tat gac cgg tac gca gcc atc				432
Glu Leu Leu Leu Leu Thr Val Met Ala Tyr Asp Arg Tyr Ala Ala Ile	130	135	140	
tgc cac ccg ctg cat tac agc agc atg atg agc aag gtg ttc tgc agc				480
Cys His Pro Leu His Tyr Ser Ser Met Met Ser Lys Val Phe Cys Ser	145	150	155	160
ggg ctg gcc aca gcc gtg tgg ctg ctc tgc gcc gtc aac acg gcc atc				528
Gly Leu Ala Thr Ala Val Trp Leu Leu Cys Ala Val Asn Thr Ala Ile	165	170	175	
cac acg ggg ctg atg ctg cgc ttg gat ttc tgt ggc ccc aat gtc att				576
His Thr Gly Leu Met Leu Arg Leu Asp Phe Cys Gly Pro Asn Val Ile	180	185	190	
atc cat ttc ttc tgc gag gtc cct ccc ctg ctg ctt ctc tcc tgc agc				624
Ile His Phe Phe Cys Glu Val Pro Pro Leu Leu Leu Leu Ser Cys Ser	195	200	205	
tcc acc tac gtc aac ggt gtc atg att gtc ctg gcg gat gct ttc tac				672
Ser Thr Tyr Val Asn Gly Val Met Ile Val Leu Ala Asp Ala Phe Tyr	210	215	220	
ggc ata gtg aac ttc ctg atg acc atc gcg tcc tat ggc ttc atc gtc				720
Gly Ile Val Asn Phe Leu Met Thr Ile Ala Ser Tyr Gly Phe Ile Val	225	230	235	240
tcc agc atc ctg aag gtg aag act gcc tgg ggg agg cag aaa gcc ttc				768
Ser Ser Ile Leu Lys Val Lys Thr Ala Trp Gly Arg Gln Lys Ala Phe	245	250	255	
tcc acc tgc tct tcc cac ctc acc gtg gtg tgc atg tat tac acc gct				816
Ser Thr Cys Ser Ser His Leu Thr Val Val Cys Met Tyr Tyr Thr Ala	260	265	270	
gtc ttc tac gcc tac ata agc ccg gtc tct ggc tac agc gca ggg aag				864

Val	Phe	Tyr	Ala	Tyr	Ile	Ser	Pro	Val	Ser	Gly	Tyr	Ser	Ala	Gly	Lys		
		275					280					285					
agc	aag	ttg	gct	ggc	ctg	ctg	tac	act	gtg	ctg	agt	cct	acc	ctc	aac	912	
Ser	Lys	Leu	Ala	Gly	Leu	Leu	Tyr	Thr	Val	Leu	Ser	Pro	Thr	Leu	Asn		
	290					295					300						
ccc	ctc	atc	tat	act	ttg	aga	aac	aag	gag	gtc	aaa	gca	gcc	ctc	agg	960	
Pro	Leu	Ile	Tyr	Thr	Leu	Arg	Asn	Lys	Glu	Val	Lys	Ala	Ala	Leu	Arg		
305					310					315					320		
aag	ctt	ttc	cct	ttc	ttc	aga	aat	taa								987	
Lys	Leu	Phe	Pro	Phe	Phe	Arg	Asn										
				325													

<210> 24

<211> 328

<212> PRT

<213> Homo Sapiens

<400> 24

Met	Lys	Leu	Trp	Met	Glu	Ser	His	Leu	Ile	Val	Pro	Glu	Thr	Arg	Pro		
1				5					10					15			
Ser	Pro	Arg	Met	Met	Ser	Asn	Gln	Thr	Leu	Val	Thr	Glu	Phe	Ile	Leu		
			20					25					30				
Gln	Gly	Phe	Ser	Glu	His	Pro	Glu	Tyr	Arg	Val	Phe	Leu	Phe	Ser	Cys		
		35					40					45					
Phe	Leu	Phe	Leu	Tyr	Ser	Gly	Ala	Leu	Thr	Gly	Asn	Val	Leu	Ile	Thr		
	50					55					60						
Leu	Ala	Ile	Thr	Phe	Asn	Pro	Gly	Leu	His	Ala	Pro	Met	Tyr	Phe	Phe		
65					70					75					80		
Leu	Leu	Asn	Leu	Ala	Thr	Met	Asp	Ile	Ile	Cys	Thr	Ser	Ser	Ile	Met		
			85						90					95			
Pro	Lys	Ala	Leu	Ala	Ser	Leu	Val	Ser	Glu	Glu	Ser	Ser	Ile	Ser	Tyr		
			100					105						110			
Gly	Gly	Cys	Met	Ala	Gln	Leu	Tyr	Phe	Leu	Thr	Trp	Ala	Ala	Ser	Ser		
		115					120						125				
Glu	Leu	Leu	Leu	Leu	Thr	Val	Met	Ala	Tyr	Asp	Arg	Tyr	Ala	Ala	Ile		
	130					135					140						
Cys	His	Pro	Leu	His	Tyr	Ser	Ser	Met	Met	Ser	Lys	Val	Phe	Cys	Ser		
145					150					155					160		

Gly Leu Ala Thr Ala Val Trp Leu Leu Cys Ala Val Asn Thr Ala Ile
 165 170 175

His Thr Gly Leu Met Leu Arg Leu Asp Phe Cys Gly Pro Asn Val Ile
 180 185 190

Ile His Phe Phe Cys Glu Val Pro Pro Leu Leu Leu Leu Ser Cys Ser
 195 200 205

Ser Thr Tyr Val Asn Gly Val Met Ile Val Leu Ala Asp Ala Phe Tyr
 210 215 220

Gly Ile Val Asn Phe Leu Met Thr Ile Ala Ser Tyr Gly Phe Ile Val
 225 230 235 240

Ser Ser Ile Leu Lys Val Lys Thr Ala Trp Gly Arg Gln Lys Ala Phe
 245 250 255

Ser Thr Cys Ser Ser His Leu Thr Val Val Cys Met Tyr Tyr Thr Ala
 260 265 270

Val Phe Tyr Ala Tyr Ile Ser Pro Val Ser Gly Tyr Ser Ala Gly Lys
 275 280 285

Ser Lys Leu Ala Gly Leu Leu Tyr Thr Val Leu Ser Pro Thr Leu Asn
 290 295 300

Pro Leu Ile Tyr Thr Leu Arg Asn Lys Glu Val Lys Ala Ala Leu Arg
 305 310 315 320

Lys Leu Phe Pro Phe Phe Arg Asn
 325

<210> 25

<211> 960

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(957)

<223>

<400> 25

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Met	Thr	Pro	Gly	Glu	Leu	Ala	Leu	Ala	Ser	Gly	Asn	His	Thr	Pro	Val	
1				5					10					15		
acc	aag	ttc	atc	ttg	cag	gga	ttc	tcc	aat	tat	cca	gac	ctc	cag	gag	96
Thr	Lys	Phe	Ile	Leu	Gln	Gly	Phe	Ser	Asn	Tyr	Pro	Asp	Leu	Gln	Glu	
			20					25					30			
ctt	ctc	ttc	gga	gcc	atc	ctg	ctc	atc	tat	gcc	ata	aca	gtg	gtg	ggc	144
Leu	Leu	Phe	Gly	Ala	Ile	Leu	Leu	Ile	Tyr	Ala	Ile	Thr	Val	Val	Gly	
			35					40					45			
aac	ttg	gga	atg	atg	gca	ctc	atc	ttc	aca	gac	tcc	cat	ctc	caa	agc	192
Asn	Leu	Gly	Met	Met	Ala	Leu	Ile	Phe	Thr	Asp	Ser	His	Leu	Gln	Ser	
	50					55					60					
cca	atg	tat	ttc	ttc	ctc	aat	gtc	ctc	tcg	ttt	ctt	gat	att	tgt	tac	240
Pro	Met	Tyr	Phe	Phe	Leu	Asn	Val	Leu	Ser	Phe	Leu	Asp	Ile	Cys	Tyr	
65					70					75				80		
tct	tct	gtg	gtc	aca	cct	aag	ctc	ttg	gtc	aac	ttc	ctg	gtc	tct	gac	288
Ser	Ser	Val	Val	Thr	Pro	Lys	Leu	Leu	Val	Asn	Phe	Leu	Val	Ser	Asp	
				85					90					95		
aag	tcc	atc	tct	ttt	gag	ggc	tgt	gtg	gtc	cag	ctc	gcc	ttc	ttt	gta	336
Lys	Ser	Ile	Ser	Phe	Glu	Gly	Cys	Val	Val	Gln	Leu	Ala	Phe	Phe	Val	
				100				105					110			
gtg	cat	gtg	aca	gct	gag	agc	ttc	ctg	ctg	gcc	tcc	atg	gcc	tat	gac	384
Val	His	Val	Thr	Ala	Glu	Ser	Phe	Leu	Leu	Ala	Ser	Met	Ala	Tyr	Asp	
			115					120					125			
cgc	ttc	cta	gcc	atc	tgt	caa	ccc	ctc	cat	tat	ggc	tct	atc	atg	acc	432
Arg	Phe	Leu	Ala	Ile	Cys	Gln	Pro	Leu	His	Tyr	Gly	Ser	Ile	Met	Thr	
	130					135					140					
agg	ggg	acc	tgt	ctc	cag	ctg	gta	gct	gtg	tcc	tat	gca	ttt	ggc	gga	480
Arg	Gly	Thr	Cys	Leu	Gln	Leu	Val	Ala	Val	Ser	Tyr	Ala	Phe	Gly	Gly	
145					150					155				160		
gcc	aac	tcc	gct	atc	cag	act	gga	aat	gtc	ttt	gcc	ctg	cct	ttc	tgt	528
Ala	Asn	Ser	Ala	Ile	Gln	Thr	Gly	Asn	Val	Phe	Ala	Leu	Pro	Phe	Cys	
				165					170					175		
ggg	ccc	aac	cag	cta	aca	cac	tac	tac	tgt	gac	ata	cca	ccc	ctt	ctc	576
Gly	Pro	Asn	Gln	Leu	Thr	His	Tyr	Tyr	Cys	Asp	Ile	Pro	Pro	Leu	Leu	
			180					185					190			
cac	ctg	gct	tgt	gcc	aac	aca	gcc	aca	gca	aga	gtg	gtc	ctc	tat	gtc	624
His	Leu	Ala	Cys	Ala	Asn	Thr	Ala	Thr	Ala	Arg	Val	Val	Leu	Tyr	Val	
			195				200					205				
ttt	tct	gct	ctg	gtc	acc	ctt	ctg	cct	gct	gca	gtc	att	ctc	acc	tcc	672
Phe	Ser	Ala	Leu	Val	Thr	Leu	Leu	Pro	Ala	Ala	Val	Ile	Leu	Thr	Ser	
	210					215					220					
tac	tgc	ttg	gtc	ttg	gtg	gcc	att	ggg	agg	atg	cgc	tca	gta	gca	ggg	720
Tyr	Cys	Leu	Val	Leu	Val	Ala	Ile	Gly	Arg	Met	Arg	Ser	Val	Ala	Gly	
225					230					235				240		
agg	gag	aag	gac	ctc	tcc	act	tgt	gcc	tcc	cac	ttt	ctg	gcc	att	gcc	768
Arg	Glu	Lys	Asp	Leu	Ser	Thr	Cys	Ala	Ser	His	Phe	Leu	Ala	Ile	Ala	
				245					250					255		
att	ttc	tat	ggc	acc	gtg	gtt	ttc	acc	tat	gtt	cag	ccc	cat	gga	tct	816
Ile	Phe	Tyr	Gly	Thr	Val	Val	Phe	Thr	Tyr	Val	Gln	Pro	His	Gly	Ser	
			260					265					270			

Ala Asn Ser Ala Ile Gln Thr Gly Asn Val Phe Ala Leu Pro Phe Cys
165 170 175

Gly Pro Asn Gln Leu Thr His Tyr Tyr Cys Asp Ile Pro Pro Leu Leu
 180 185 190

His Leu Ala Cys Ala Asn Thr Ala Thr Ala Arg Val Val Leu Tyr Val
 195 200 205

Phe Ser Ala Leu Val Thr Leu Leu Pro Ala Ala Val Ile Leu Thr Ser
 210 215 220

Tyr Cys Leu Val Leu Val Ala Ile Gly Arg Met Arg Ser Val Ala Gly
 225 230 235 240

Arg Glu Lys Asp Leu Ser Thr Cys Ala Ser His Phe Leu Ala Ile Ala
 245 250 255

Ile Phe Tyr Gly Thr Val Val Phe Thr Tyr Val Gln Pro His Gly Ser
 260 265 270

Thr Asn Asn Thr Asn Gly Gln Val Val Ser Val Phe Tyr Thr Ile Ile
 275 280 285

Ile Pro Met Leu Asn Pro Phe Ile Tyr Ser Leu Arg Asn Lys Glu Val
 290 295 300

Lys Gly Ala Leu Gln Arg Lys Leu Gln Val Asn Ile Phe Pro Gly
 305 310 315

<210> 27

<211> 939

<212> DNA

<213> Homo Sapiens

<220>

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<222> (1)..(936)

<223>

<400> 27

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 1 5 10 15

gtt atc caa ggc cta caa aca cct ctc ttt att gca atc ttt ctc acc 96
 Val Ile Gln Gly Leu Gln Thr Pro Leu Phe Ile Ala Ile Phe Leu Thr
 20 25 30

tac	ata	tta	acc	ctt	gca	ggc	aat	ggg	ctt	att	att	gcc	act	gtg	tgg	144
Tyr	Ile	Leu	Thr	Leu	Ala	Gly	Asn	Gly	Leu	Ile	Ile	Ala	Thr	Val	Trp	
		35					40					45				
gct	gag	ccc	agg	cta	caa	att	cca	atg	tac	ttc	ttc	ctt	tgt	aac	ttg	192
Ala	Glu	Pro	Arg	Leu	Gln	Ile	Pro	Met	Tyr	Phe	Phe	Leu	Cys	Asn	Leu	
	50					55					60					
tct	ttc	tta	gaa	atc	tgg	tac	acc	acc	aca	gtc	atc	ccc	aaa	ctg	cta	240
Ser	Phe	Leu	Glu	Ile	Trp	Tyr	Thr	Thr	Thr	Val	Ile	Pro	Lys	Leu	Leu	
65					70					75					80	
gga	acc	ttt	gta	gtg	gca	aga	aca	gta	atc	tgc	atg	tcc	tgc	tgc	ctg	288
Gly	Thr	Phe	Val	Val	Ala	Arg	Thr	Val	Ile	Cys	Met	Ser	Cys	Cys	Leu	
				85					90					95		
ctg	cag	gcc	ttc	ttc	cac	ttc	ttc	gtg	ggc	acc	acc	gag	ttc	ttg	atc	336
Leu	Gln	Ala	Phe	Phe	His	Phe	Phe	Val	Gly	Thr	Thr	Glu	Phe	Leu	Ile	
			100					105					110			
ctc	act	atc	atg	tct	ttt	gac	cgc	tac	ctc	acc	atc	tgc	aat	ccc	ctt	384
Leu	Thr	Ile	Met	Ser	Phe	Asp	Arg	Tyr	Leu	Thr	Ile	Cys	Asn	Pro	Leu	
		115					120					125				
cac	cac	ccc	acc	atc	atg	acc	agc	aaa	ctc	tgc	ctg	cag	ctg	gcc	ctg	432
His	His	Pro	Thr	Ile	Met	Thr	Ser	Lys	Leu	Cys	Leu	Gln	Leu	Ala	Leu	
		130					135					140				
agc	tcc	tgg	gtg	gtg	ggc	ttc	acc	att	gtc	ttt	tgt	cag	acg	atg	ctg	480
Ser	Ser	Trp	Val	Val	Gly	Phe	Thr	Ile	Val	Phe	Cys	Gln	Thr	Met	Leu	
145					150					155					160	
ctc	atc	cag	ttg	cca	ttc	tgt	ggc	aat	aat	gtt	atc	agt	cat	ttc	tac	528
Leu	Ile	Gln	Leu	Pro	Phe	Cys	Gly	Asn	Asn	Val	Ile	Ser	His	Phe	Tyr	
				165					170					175		
tgt	gat	gtt	ggg	ccc	agt	ttg	aaa	gcc	gcc	tgc	ata	gac	acc	agc	att	576
Cys	Asp	Val	Gly	Pro	Ser	Leu	Lys	Ala	Ala	Cys	Ile	Asp	Thr	Ser	Ile	
			180					185					190			
ttg	gaa	ctc	ctg	ggc	gtc	ata	gca	acc	atc	ctt	gtg	atc	cca	ggg	tca	624
Leu	Glu	Leu	Leu	Gly	Val	Ile	Ala	Thr	Ile	Leu	Val	Ile	Pro	Gly	Ser	
			195					200					205			
ctt	ctc	ttt	aat	atg	att	tct	tat	atc	tac	att	ctg	tcc	gca	atc	cta	672
Leu	Leu	Phe	Asn	Met	Ile	Ser	Tyr	Ile	Tyr	Ile	Leu	Ser	Ala	Ile	Leu	
		210					215					220				
cga	att	cct	tca	gcc	act	ggc	cac	caa	aag	act	ttc	tct	acc	tgt	gcc	720
Arg	Ile	Pro	Ser	Ala	Thr	Gly	His	Gln	Lys	Thr	Phe	Ser	Thr	Cys	Ala	
225					230					235					240	
tcg	cac	ctg	aca	gtt	gtc	tcc	ctg	ctc	tac	ggg	gct	gtt	ctg	ttc	atg	768
Ser	His	Leu	Thr	Val	Val	Ser	Leu	Leu	Tyr	Gly	Ala	Val	Leu	Phe	Met	
				245					250					255		
tac	cta	aga	ccc	aca	gca	cac	tcc	tcc	ttt	aag	att	aat	aag	gtg	gtg	816
Tyr	Leu	Arg	Pro	Thr	Ala	His	Ser	Ser	Phe	Lys	Ile	Asn	Lys	Val	Val	
			260					265					270			
tct	gtg	cta	aat	act	atc	ctc	acc	ccc	ctt	ctg	aat	ccc	ttt	att	tat	864
Ser	Val	Leu	Asn	Thr	Ile	Leu	Thr	Pro	Leu	Leu	Asn	Pro	Phe	Ile	Tyr	
			275				280					285				
act	att	aga	aac	aag	gag	gtg	aag	gga	gcc	tta	aga	aag	gca	atg	act	912
Thr	Ile	Arg	Asn	Lys	Glu	Val	Lys	Gly	Ala	Leu	Arg	Lys	Ala	Met	Thr	
		290				295						300				

tgc cca aag act ggt cat gca aag taa
 Cys Pro Lys Thr Gly His Ala Lys
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939

<210> 28

<211> 312

<212> PRT

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<400> 28

Met Arg Asn Gly Thr Val Ile Thr Glu Phe Ile Leu Leu Gly Phe Pro
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Val Ile Gln Gly Leu Gln Thr Pro Leu Phe Ile Ala Ile Phe Leu Thr
 20 25 30

Tyr Ile Leu Thr Leu Ala Gly Asn Gly Leu Ile Ile Ala Thr Val Trp
 35 40 45

Ala Glu Pro Arg Leu Gln Ile Pro Met Tyr Phe Phe Leu Cys Asn Leu
 50 55 60

Ser Phe Leu Glu Ile Trp Tyr Thr Thr Thr Val Ile Pro Lys Leu Leu
 65 70 75 80

Gly Thr Phe Val Val Ala Arg Thr Val Ile Cys Met Ser Cys Cys Leu
 85 90 95

Leu Gln Ala Phe Phe His Phe Phe Val Gly Thr Thr Glu Phe Leu Ile
 100 105 110

Leu Thr Ile Met Ser Phe Asp Arg Tyr Leu Thr Ile Cys Asn Pro Leu
 115 120 125

His His Pro Thr Ile Met Thr Ser Lys Leu Cys Leu Gln Leu Ala Leu
 130 135 140

Ser Ser Trp Val Val Gly Phe Thr Ile Val Phe Cys Gln Thr Met Leu
 145 150 155 160

Leu Ile Gln Leu Pro Phe Cys Gly Asn Asn Val Ile Ser His Phe Tyr
 165 170 175

Cys Asp Val Gly Pro Ser Leu Lys Ala Ala Cys Ile Asp Thr Ser Ile
 180 185 190

Leu Glu Leu Leu Gly Val Ile Ala Thr Ile Leu Val Ile Pro Gly Ser
 195 200 205

Leu Leu Phe Asn Met Ile Ser Tyr Ile Tyr Ile Leu Ser Ala Ile Leu
 210 215 220 .

Arg Ile Pro Ser Ala Thr Gly His Gln Lys Thr Phe Ser Thr Cys Ala
 225 230 235 240

Ser His Leu Thr Val Val Ser Leu Leu Tyr Gly Ala Val Leu Phe Met
 245 250 255

Tyr Leu Arg Pro Thr Ala His Ser Ser Phe Lys Ile Asn Lys Val Val
 260 265 270

Ser Val Leu Asn Thr Ile Leu Thr Pro Leu Leu Asn Pro Phe Ile Tyr
 275 280 285

Thr Ile Arg Asn Lys Glu Val Lys Gly Ala Leu Arg Lys Ala Met Thr
 290 295 300

Cys Pro Lys Thr Gly His Ala Lys
 305 310

<210> 29
 <211> 1038

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(1035)

<223>

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 Met Asn Ile Thr Leu Tyr Ser Phe Leu Tyr Val Leu Arg Leu Asn Glu
 1 5 10 15

ggg aat agt act gga aga aat ata gat gaa aga aag aaa atg caa gga 96
 Gly Asn Ser Thr Gly Arg Asn Ile Asp Glu Arg Lys Lys Met Gln Gly
 20 25 30

gaa aac ttc acc att tgg agc att ttt ttc ttg gag gga ttt tcc cag 144
 Glu Asn Phe Thr Ile Trp Ser Ile Phe Phe Leu Glu Gly Phe Ser Gln
 35 40 45

tac cca ggg tta gaa gtg gtt ctc ttc gtc ttc agc ctt gta atg tat 192
 Tyr Pro Gly Leu Glu Val Val Leu Phe Val Phe Ser Leu Val Met Tyr
 50 55 60

ctg aca acg ctc ttg ggc aac agc act ctt att ttg atc act atc cta 240

Leu 65	Thr	Thr	Leu	Leu	Gly 70	Asn	Ser	Thr	Leu	Ile 75	Leu	Ile	Thr	Ile	Leu 80	
gat	tca	cgc	ctt	aaa	acc	ccc	atg	tac	tta	ttc	ctt	gga	aat	ctc	tct	288
Asp	Ser	Arg	Leu	Lys 85	Thr	Pro	Met	Tyr	Leu 90	Phe	Leu	Gly	Asn	Leu 95	Ser	
ttc	atg	gat	att	tgt	tac	aca	tct	gcc	tct	gtt	cct	act	ttg	ctg	gtg	336
Phe	Met	Asp	Ile 100	Cys	Tyr	Thr	Ser	Ala 105	Ser	Val	Pro	Thr	Leu 110	Leu	Val	
aac	ttg	ctg	tca	tcc	cag	aaa	acc	att	atc	ttt	tct	ggg	tgt	gct	gta	384
Asn	Leu 115	Leu	Ser	Ser	Gln	Lys	Thr	Ile 120	Ile	Phe	Ser	Gly 125	Cys	Ala	Val	
cag	atg	tat	ctg	tcc	ctt	gcc	atg	ggc	tcc	aca	gag	tgt	gtg	ctc	ctg	432
Gln	Met 130	Tyr	Leu	Ser	Leu	Ala 135	Met	Gly	Ser	Thr	Glu 140	Cys	Val	Leu	Leu	
gcc	gtg	atg	gca	tat	gac	cgt	tat	gtg	gcc	att	tgt	aac	ccg	ctg	aga	480
Ala	Val 145	Met	Ala	Tyr	Asp 150	Arg	Tyr	Val	Ala 155	Ile	Cys	Asn	Pro	Leu 160	Arg	
tac	tcc	atc	atc	atg	aac	agg	tgc	gtc	tgt	gca	cgg	atg	gcc	acg	gtc	528
Tyr	Ser	Ile	Ile	Met 165	Asn	Arg	Cys	Val 170	Cys	Ala	Arg	Met	Ala 175	Thr	Val	
tcc	tgg	gtg	acg	ggc	tgc	ctg	acc	gct	ctg	ctg	gaa	acc	agt	ttt	gcc	576
Ser	Trp 180	Val	Thr	Gly	Cys	Leu	Thr 185	Ala	Leu	Leu	Glu	Thr 190	Ser	Phe	Ala	
ctg	cag	ata	ccc	ctc	tgt	ggg	aat	ctc	atc	gat	cac	ttc	acg	tgt	gaa	624
Leu	Gln 195	Ile	Pro	Leu	Cys	Gly	Asn 200	Leu	Ile	Asp	His	Phe 205	Thr	Cys	Glu	
att	ctg	gcg	gtg	cta	aag	tta	gct	tgc	aca	agt	tca	ctg	ctc	atg	aac	672
Ile 210	Leu	Ala	Val	Leu	Lys 215	Leu	Ala	Cys	Thr	Ser	Ser 220	Leu	Leu	Met	Asn	
acc	atc	atg	ctg	gtg	gtc	agc	att	ctc	ctc	ttg	cca	att	cca	atg	ctc	720
Thr 225	Ile	Met	Leu	Val	Val 230	Ser	Ile	Leu	Leu	Leu 235	Pro	Ile	Pro	Met	Leu 240	
tta	gtt	tgc	atc	tct	tac	atc	ttc	atc	ctt	tcc	act	att	ctg	aga	atc	768
Leu	Val	Cys	Ile	Ser 245	Tyr	Ile	Phe	Ile	Leu 250	Ser	Thr	Ile	Leu	Arg 255	Ile	
acc	tca	gca	gag	gga	aga	aac	aag	gct	ttt	tct	acc	tgt	ggc	cat		816
Thr	Ser	Ala	Glu 260	Gly	Arg	Asn	Lys	Ala 265	Phe	Ser	Thr	Cys 270	Gly	Ala	His	
ttg	act	gtg	gtg	att	ttg	tat	tat	ggg	gct	gcc	ctc	tct	atg	tac	cta	864
Leu	Thr 275	Val	Val	Ile	Leu	Tyr	Tyr 280	Gly	Ala	Ala	Leu	Ser 285	Met	Tyr	Leu	
aag	cct	tct	tca	tca	aat	gca	caa	aaa	ata	gac	aaa	atc	atc	tcg	ttg	912
Lys 290	Pro	Ser	Ser	Ser	Asn 295	Ala	Gln	Lys	Ile	Asp	Lys 300	Ile	Ile	Ser	Leu	
ctt	tac	gga	gtg	ctt	acc	cct	atg	ttg	aac	ccc	ata	att	tac	agt	tta	960
Leu 305	Tyr	Gly	Val	Leu	Thr 310	Pro	Met	Leu	Asn	Pro 315	Ile	Ile	Tyr	Ser	Leu 320	
aga	aac	aag	gaa	gtc	aaa	gat	gct	atg	aag	aaa	ttg	ctg	ggc	aaa	ata	1008
Arg	Asn	Lys	Glu 325	Val	Lys	Asp	Ala 330	Met	Lys	Lys	Leu	Leu	Gly 335	Lys	Ile	

aca ttg cat caa aca cac gaa cat ctc tga
 Thr Leu His Gln Thr His Glu His Leu
 340 345

1038

<210> 30

<211> 345

<212> PRT

<213> Homo Sapiens

<400> 30

Met Asn Ile Thr Leu Tyr Ser Phe Leu Tyr Val Leu Arg Leu Asn Glu
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Gly Asn Ser Thr Gly Arg Asn Ile Asp Glu Arg Lys Lys Met Gln Gly
 20 25 30

Glu Asn Phe Thr Ile Trp Ser Ile Phe Phe Leu Glu Gly Phe Ser Gln
 35 40 45

Tyr Pro Gly Leu Glu Val Val Leu Phe Val Phe Ser Leu Val Met Tyr
 50 55 60

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

Asp Ser Arg Leu Lys Thr Pro Met Tyr Leu Phe Leu Gly Asn Leu Ser
 85 90 95

Phe Met Asp Ile Cys Tyr Thr Ser Ala Ser Val Pro Thr Leu Leu Val
 100 105 110

Asn Leu Leu Ser Ser Gln Lys Thr Ile Ile Phe Ser Gly Cys Ala Val
 115 120 125

Gln Met Tyr Leu Ser Leu Ala Met Gly Ser Thr Glu Cys Val Leu Leu
 130 135 140

Ala Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn Pro Leu Arg
 145 150 155 160

Tyr Ser Ile Ile Met Asn Arg Cys Val Cys Ala Arg Met Ala Thr Val
 165 170 175

Ser Trp Val Thr Gly Cys Leu Thr Ala Leu Leu Glu Thr Ser Phe Ala
 180 185 190

Leu Gln Ile Pro Leu Cys Gly Asn Leu Ile Asp His Phe Thr Cys Glu
 195 200 205

Ile Leu Ala Val Leu Lys Leu Ala Cys Thr Ser Ser Leu Leu Met Asn
 210 215 220

Thr Ile Met Leu Val Val Ser Ile Leu Leu Leu Pro Ile Pro Met Leu
 225 230 235 240

Leu Val Cys Ile Ser Tyr Ile Phe Ile Leu Ser Thr Ile Leu Arg Ile
 245 250 255

Thr Ser Ala Glu Gly Arg Asn Lys Ala Phe Ser Thr Cys Gly Ala His
 260 265 270

Leu Thr Val Val Ile Leu Tyr Tyr Gly Ala Ala Leu Ser Met Tyr Leu
 275 280 285

Lys Pro Ser Ser Ser Asn Ala Gln Lys Ile Asp Lys Ile Ile Ser Leu
 290 295 300

Leu Tyr Gly Val Leu Thr Pro Met Leu Asn Pro Ile Ile Tyr Ser Leu
 305 310 315 320

Arg Asn Lys Glu Val Lys Asp Ala Met Lys Lys Leu Leu Gly Lys Ile
 325 330 335

Thr Leu His Gln Thr His Glu His Leu
 340 345

<210> 31

<211> 954

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(951)

<223>

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1				5				10					15			

cag	cag	agc	tcc	act	tcc	aca	cga	gca	ttg	ctc	ttt	gcc	ctc	ttc	ttg	96
Gln	Gln	Ser	Ser	Thr	Ser	Thr	Arg	Ala	Leu	Leu	Phe	Ala	Leu	Phe	Leu	
			20					25					30			

gcc ctc tac agc ctc acc atg gcc atg aat ggc ctc atc atc ttt atc Ala Leu Tyr Ser Leu Thr Met Ala Met Asn Gly Leu Ile Ile Phe Ile 35 40 45	144
acc tcc tgg aca gac ccc aag ctc aac agc ccc atg tac ttc ttc ctc Thr Ser Trp Thr Asp Pro Lys Leu Asn Ser Pro Met Tyr Phe Phe Leu 50 55 60	192
ggc cat ctg tct ctc ctg gat gtc tgc ttc atc acc act acc atc cca Gly His Leu Ser Leu Leu Asp Val Cys Phe Ile Thr Thr Thr Ile Pro 65 70 75 80	240
cag atg ttg atc cac ctc gtg gtc agg gac cac att gtc tcc ttt gta Gln Met Leu Ile His Leu Val Val Arg Asp His Ile Val Ser Phe Val 85 90 95	288
tgt tgc atg acc cag atg tac ttt gtc ttc tgt gtt ggt gtg gcc gag Cys Cys Met Thr Gln Met Tyr Phe Val Phe Cys Val Gly Val Ala Glu 100 105 110	336
tgc atc ctc ttg gct ttc atg gcc tat gac cgt tat gtt gct atc tgc Cys Ile Leu Leu Ala Phe Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys 115 120 125	384
tac cca ctt aac tat gtc ccg atc ata agc cag aag gtc tgt gtc agg Tyr Pro Leu Asn Tyr Val Pro Ile Ile Ser Gln Lys Val Cys Val Arg 130 135 140	432
ctt gtg gga act gcc tgg ttc ttt ggg ctg atc aat ggc atc ttt ctc Leu Val Gly Thr Ala Trp Phe Phe Gly Leu Ile Asn Gly Ile Phe Leu 145 150 155 160	480
gag tat att tca ttc cga gag ccc ttc cgc aga gac aac cac ata gaa Glu Tyr Ile Ser Phe Arg Glu Pro Phe Arg Arg Asp Asn His Ile Glu 165 170 175	528
agc ttc ttc tgt gag gcc ccc ata gtg att ggc ctc tct tgt ggg gac Ser Phe Phe Cys Glu Ala Pro Ile Val Ile Gly Leu Ser Cys Gly Asp 180 185 190	576
cct cag ttt agt ctg tgg gca atc ttt gcc gat gcc atc gtg gta att Pro Gln Phe Ser Leu Trp Ala Ile Phe Ala Asp Ala Ile Val Val Ile 195 200 205	624
ctc agc ccc atg gtg ctc act gtc act tcc tat gtg cac atc ctg gcc Leu Ser Pro Met Val Leu Thr Val Thr Ser Tyr Val His Ile Leu Ala 210 215 220	672
acc atc ctc agc aaa gcc tcc tcc tca ggt cgg ggg aag act ttc tct Thr Ile Leu Ser Lys Ala Ser Ser Ser Gly Arg Gly Lys Thr Phe Ser 225 230 235 240	720
act tgt gcc tct cac ctg act gtg gtc atc ttt ctc tac act tca gct Thr Cys Ala Ser His Leu Thr Val Val Ile Phe Leu Tyr Thr Ser Ala 245 250 255	768
atg ttc tct tac atg aac ccc cac agc aca cat ggg cct gac aaa gac Met Phe Ser Tyr Met Asn Pro His Ser Thr His Gly Pro Asp Lys Asp 260 265 270	816
aaa cct ttc tcc ctc ctg tac acc atc att acc ccc atg tgc aac ccc Lys Pro Phe Ser Leu Leu Tyr Thr Ile Ile Thr Pro Met Cys Asn Pro 275 280 285	864
atc att tat agt ttc cgc aac aag gaa att aag gag gcc atg gtg agg Ile Ile Tyr Ser Phe Arg Asn Lys Glu Ile Lys Glu Ala Met Val Arg 290 295 300	912

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954

<210> 32

<211> 317

<212> PRT

<213> Homo Sapiens

<400> 32

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Gln Gln Ser Ser Thr Ser Thr Arg Ala Leu Leu Phe Ala Leu Phe Leu
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Ala Leu Tyr Ser Leu Thr Met Ala Met Asn Gly Leu Ile Ile Phe Ile
 35 40 45

Thr Ser Trp Thr Asp Pro Lys Leu Asn Ser Pro Met Tyr Phe Phe Leu
 50 55 60

Gly His Leu Ser Leu Leu Asp Val Cys Phe Ile Thr Thr Thr Ile Pro
 65 70 75 80

Gln Met Leu Ile His Leu Val Val Arg Asp His Ile Val Ser Phe Val
 85 90 95

Cys Cys Met Thr Gln Met Tyr Phe Val Phe Cys Val Gly Val Ala Glu
 100 105 110

Cys Ile Leu Leu Ala Phe Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys
 115 120 125

Tyr Pro Leu Asn Tyr Val Pro Ile Ile Ser Gln Lys Val Cys Val Arg
 130 135 140

Leu Val Gly Thr Ala Trp Phe Phe Gly Leu Ile Asn Gly Ile Phe Leu
 145 150 155 160

Glu Tyr Ile Ser Phe Arg Glu Pro Phe Arg Arg Asp Asn His Ile Glu
 165 170 175

Ser Phe Phe Cys Glu Ala Pro Ile Val Ile Gly Leu Ser Cys Gly Asp
 180 185 190

Pro Gln Phe Ser Leu Trp Ala Ile Phe Ala Asp Ala Ile Val Val Ile

195

200

205

Leu Ser Pro Met Val Leu Thr Val Thr Ser Tyr Val His Ile Leu Ala
 210 215 220

Thr Ile Leu Ser Lys Ala Ser Ser Ser Gly Arg Gly Lys Thr Phe Ser
 225 230 235 240

Thr Cys Ala Ser His Leu Thr Val Val Ile Phe Leu Tyr Thr Ser Ala
 245 250 255

Met Phe Ser Tyr Met Asn Pro His Ser Thr His Gly Pro Asp Lys Asp
 260 265 270

Lys Pro Phe Ser Leu Leu Tyr Thr Ile Ile Thr Pro Met Cys Asn Pro
 275 280 285

Ile Ile Tyr Ser Phe Arg Asn Lys Glu Ile Lys Glu Ala Met Val Arg
 290 295 300

Ala Leu Gly Arg Thr Arg Leu Ala Gln Pro Gln Ser Val
 305 310 315

<210> 33

<211> 960

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(957)

<223>

<400> 33

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 1 5 10 15

ttt att ctc ttg ggg ttt tcc caa aat aag aac att gaa gtc ctc tgc 96
 Phe Ile Leu Leu Gly Phe Ser Gln Asn Lys Asn Ile Glu Val Leu Cys
 20 25 30

ttt gta tta ttt ttg ttt tgc tac att gct att tgg atg gga aac tta 144
 Phe Val Leu Phe Leu Phe Cys Tyr Ile Ala Ile Trp Met Gly Asn Leu
 35 40 45

ctc ata atg att tct atc acg tgc acc cag ctc att cac caa ccc atg 192
 Leu Ile Met Ile Ser Ile Thr Cys Thr Gln Leu Ile His Gln Pro Met
 50 55 60

tat ttc ttc ctc aat tac ctc tca ctc tcc gac ctt tgc tac aca tcc	240
Tyr Phe Phe Leu Asn Tyr Leu Ser Leu Ser Asp Leu Cys Tyr Thr Ser	
65 70 75 80	
aca gtg acc ccc aaa tta atg gtt gac tta ctg gca gaa aga aag acc	288
Thr Val Thr Pro Lys Leu Met Val Asp Leu Leu Ala Glu Arg Lys Thr	
85 90 95	
att tcc tat aat aac tgt atg ata caa ctc ttt acc acc cat ttt ttt	336
Ile Ser Tyr Asn Asn Cys Met Ile Gln Leu Phe Thr Thr His Phe Phe	
100 105 110	
gga ggc ata gag atc ttc att ctc aca ggg atg gcc tat gac cgc tat	384
Gly Gly Ile Glu Ile Phe Ile Leu Thr Gly Met Ala Tyr Asp Arg Tyr	
115 120 125	
gtg gcc att tgc aag ccc ctg cac tac acc att att atg agc agg caa	432
Val Ala Ile Cys Lys Pro Leu His Tyr Thr Ile Ile Met Ser Arg Gln	
130 135 140	
aag tgt aac aca atc atc ata gtt tgt tgt act ggg gga ttt ata cat	480
Lys Cys Asn Thr Ile Ile Ile Val Cys Cys Thr Gly Gly Phe Ile His	
145 150 155 160	
tct gcc agt cag ttt ctt ctc acc atc ttt gta cca ttt tgt ggc cca	528
Ser Ala Ser Gln Phe Leu Leu Thr Ile Phe Val Pro Phe Cys Gly Pro	
165 170 175	
aat gag ata gat cac tac ttc tgt gat gtg tat cct ttg ctg aaa ttg	576
Asn Glu Ile Asp His Tyr Phe Cys Asp Val Tyr Pro Leu Leu Lys Leu	
180 185 190	
gcc tgt tct aat ata cac atg ata ggt ctc tta gtc att gct aat tca	624
Ala Cys Ser Asn Ile His Met Ile Gly Leu Leu Val Ile Ala Asn Ser	
195 200 205	
ggc tta att gct ttg gtg aca ttt gtt gtc ttg ttg ttg tct tat gtt	672
Gly Leu Ile Ala Leu Val Thr Phe Val Val Leu Leu Leu Ser Tyr Val	
210 215 220	
ttt ata ttg tat acc atc aga gca tac tct gca gag aga cgc agc aaa	720
Phe Ile Leu Tyr Thr Ile Arg Ala Tyr Ser Ala Glu Arg Arg Ser Lys	
225 230 235 240	
gct ctt gcc act tgt agt tct cat gta att gtt gtg gtc ctg ttt ttt	768
Ala Leu Ala Thr Cys Ser Ser His Val Ile Val Val Val Leu Phe Phe	
245 250 255	
gct cct gca ttg ttc att tac att aga ccg gtc aca aca ttc tca gaa	816
Ala Pro Ala Leu Phe Ile Tyr Ile Arg Pro Val Thr Thr Phe Ser Glu	
260 265 270	
gat aaa gtg ttt gcc ctt ttt tat acc atc att gct ccc atg ttc aac	864
Asp Lys Val Phe Ala Leu Phe Tyr Thr Ile Ile Ala Pro Met Phe Asn	
275 280 285	
cct ctc ata tac acg ctg aga aac aca gag atg aag aac gcc atg agg	912
Pro Leu Ile Tyr Thr Leu Arg Asn Thr Glu Met Lys Asn Ala Met Arg	
290 295 300	
aaa gtg tgg tgt tgt caa ata ctc ctg aaa aga aat caa ctt ttc tga	960
Lys Val Trp Cys Cys Gln Ile Leu Leu Lys Arg Asn Gln Leu Phe	
305 310 315	

<211> 319

<212> PRT

<213> Homo Sapiens

<400> 34

Met Phe Tyr Leu His Trp Thr Met Glu Lys Ser Asn Asn Ser Thr Leu
 1 5 10 15

Phe Ile Leu Leu Gly Phe Ser Gln Asn Lys Asn Ile Glu Val Leu Cys
 20 25 30

Phe Val Leu Phe Leu Phe Cys Tyr Ile Ala Ile Trp Met Gly Asn Leu
 35 40 45

Leu Ile Met Ile Ser Ile Thr Cys Thr Gln Leu Ile His Gln Pro Met
 50 55 60

Tyr Phe Phe Leu Asn Tyr Leu Ser Leu Ser Asp Leu Cys Tyr Thr Ser
 65 70 75 80

Thr Val Thr Pro Lys Leu Met Val Asp Leu Leu Ala Glu Arg Lys Thr
 85 90 95

Ile Ser Tyr Asn Asn Cys Met Ile Gln Leu Phe Thr Thr His Phe Phe
 100 105 110

Gly Gly Ile Glu Ile Phe Ile Leu Thr Gly Met Ala Tyr Asp Arg Tyr
 115 120 125

Val Ala Ile Cys Lys Pro Leu His Tyr Thr Ile Ile Met Ser Arg Gln
 130 135 140

Lys Cys Asn Thr Ile Ile Ile Val Cys Cys Thr Gly Gly Phe Ile His
 145 150 155 160

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

Asn Glu Ile Asp His Tyr Phe Cys Asp Val Tyr Pro Leu Leu Lys Leu
 180 185 190

Ala Cys Ser Asn Ile His Met Ile Gly Leu Leu Val Ile Ala Asn Ser
 195 200 205

Gly Leu Ile Ala Leu Val Thr Phe Val Val Leu Leu Leu Ser Tyr Val
 210 215 220

Phe Ile Leu Tyr Thr Ile Arg Ala Tyr Ser Ala Glu Arg Arg Ser Lys
225 230 235 240

Ala Leu Ala Thr Cys Ser Ser His Val Ile Val Val Val Leu Phe Phe
245 250 255

Ala Pro Ala Leu Phe Ile Tyr Ile Arg Pro Val Thr Thr Phe Ser Glu
260 265 270

Asp Lys Val Phe Ala Leu Phe Tyr Thr Ile Ile Ala Pro Met Phe Asn
275 280 285

Pro Leu Ile Tyr Thr Leu Arg Asn Thr Glu Met Lys Asn Ala Met Arg
290 295 300

Lys Val Trp Cys Cys Gln Ile Leu Leu Lys Arg Asn Gln Leu Phe
305 310 315

<210> 35

<211> 990

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(987)

<223>

<400> 35

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Met Ile Pro Val Gly Ala Phe Ile Phe Ser Leu Gly Asn Met Gln Asn
1 5 10 15

caa agc ttt gta act gag ttt gtc ctc ctg gga ctt tca cag aat cca 96
Gln Ser Phe Val Thr Glu Phe Val Leu Leu Gly Leu Ser Gln Asn Pro
20 25 30

aat gtt cag gaa ata gta ttt gtt gta ttt ttg ttt gtc tac att gca 144
Asn Val Gln Glu Ile Val Phe Val Val Phe Leu Phe Val Tyr Ile Ala
35 40 45

act gtt ggg ggc aac atg cta att gta gta acc att ctc agc agc cct 192
Thr Val Gly Gly Asn Met Leu Ile Val Val Thr Ile Leu Ser Ser Pro
50 55 60

gct ctt ctg gtg tct cct atg tac ttc ttc ttg ggc ttc ctg tcc ttc 240
Ala Leu Leu Val Ser Pro Met Tyr Phe Phe Leu Gly Phe Leu Ser Phe
65 70 75 80

ctg gat gcg tgc ttc tca tct gtc atc acc cca aag atg att gta gac 288
Leu Asp Ala Cys Phe Ser Ser Val Ile Thr Pro Lys Met Ile Val Asp

85					90					95						
tcc	ctc	tat	gtg	aca	aaa	acc	atc	tct	ttt	gaa	ggc	tgc	atg	atg	cag	336
Ser	Leu	Tyr	Val	Thr	Lys	Thr	Ile	Ser	Phe	Glu	Gly	Cys	Met	Met	Gln	
			100						105					110		
ctc	ttt	gct	gaa	cac	ttc	ttt	gct	ggg	gtg	gag	gtg	att	gtc	ctc	aca	384
Leu	Phe	Ala	Glu	His	Phe	Phe	Ala	Gly	Val	Glu	Val	Ile	Val	Leu	Thr	
		115					120					125				
gcc	atg	gcc	tat	gat	cgt	tat	gtg	gcc	att	tgc	aag	ccc	ttg	cat	tac	432
Ala	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Lys	Pro	Leu	His	Tyr	
		130				135					140					
tct	tct	atc	atg	aac	agg	agg	ctc	tgt	ggc	att	ctg	atg	ggg	gta	gcc	480
Ser	Ser	Ile	Met	Asn	Arg	Arg	Leu	Cys	Gly	Ile	Leu	Met	Gly	Val	Ala	
145					150					155					160	
tgg	aca	ggg	ggc	ctc	ttg	cat	tcc	atg	ata	caa	att	ctt	ttt	act	ttc	528
Trp	Thr	Gly	Gly	Leu	Leu	His	Ser	Met	Ile	Gln	Ile	Leu	Phe	Thr	Phe	
				165					170					175		
cag	ctt	ccc	ttt	tgt	ggc	ccc	aat	gtc	atc	aat	cac	ttt	atg	tgt	gac	576
Gln	Leu	Pro	Phe	Cys	Gly	Pro	Asn	Val	Ile	Asn	His	Phe	Met	Cys	Asp	
			180					185					190			
ttg	tac	ccg	tta	ctg	gag	ctt	gcc	tgc	act	gat	act	cac	atc	ttt	ggc	624
Leu	Tyr	Pro	Leu	Leu	Glu	Leu	Ala	Cys	Thr	Asp	Thr	His	Ile	Phe	Gly	
		195					200					205				
ctc	atg	gtg	gtc	atc	aac	agt	ggg	ttt	atc	tgc	atc	ata	aac	ttc	tcc	672
Leu	Met	Val	Val	Ile	Asn	Ser	Gly	Phe	Ile	Cys	Ile	Ile	Asn	Phe	Ser	
		210				215					220					
ttg	ttg	ctt	gtc	tcc	tat	gct	gtc	atc	ttg	ctc	tct	ctg	aga	aca	cac	720
Leu	Leu	Leu	Val	Ser	Tyr	Ala	Val	Ile	Leu	Leu	Ser	Leu	Arg	Thr	His	
225					230					235					240	
agt	tct	gaa	ggg	cgc	tgg	aaa	gct	ctc	tcc	acc	tgt	gga	tct	cac	att	768
Ser	Ser	Glu	Gly	Arg	Trp	Lys	Ala	Leu	Ser	Thr	Cys	Gly	Ser	His	Ile	
				245					250					255		
gct	gtt	gtg	att	ttg	ttc	ttt	gtc	cca	tgc	ata	ttt	gta	tat	aca	cga	816
Ala	Val	Val	Ile	Leu	Phe	Phe	Val	Pro	Cys	Ile	Phe	Val	Tyr	Thr	Arg	
			260					265					270			
cct	cca	tct	gct	ttt	tcc	ctt	gac	aaa	atg	gcg	gca	ata	ttt	tat	atc	864
Pro	Pro	Ser	Ala	Phe	Ser	Leu	Asp	Lys	Met	Ala	Ala	Ile	Phe	Tyr	Ile	
			275				280					285				
atc	tta	aat	ccc	ttg	ctc	aat	cct	ttg	att	tac	act	ttc	agg	aat	aag	912
Ile	Leu	Asn	Pro	Leu	Leu	Asn	Pro	Leu	Ile	Tyr	Thr	Phe	Arg	Asn	Lys	
		290				295					300					
gaa	gta	aaa	cag	gcc	atg	agg	aga	ata	tgg	aac	aga	ctg	atg	gtg	gtt	960
Glu	Val	Lys	Gln	Ala	Met	Arg	Arg	Ile	Trp	Asn	Arg	Leu	Met	Val	Val	
305					310					315					320	
tct	gat	gag	aaa	gaa	aat	att	aaa	ctt	taa							990
Ser	Asp	Glu	Lys	Glu	Asn	Ile	Lys	Leu								
				325												

<210> 36

<211> 329

<212> PRT

<213> Homo Sapiens

<400> 36

Met	Ile	Pro	Val	Gly	Ala	Phe	Ile	Phe	Ser	Leu	Gly	Asn	Met	Gln	Asn	1	5	10	15
Gln	Ser	Phe	Val	Thr	Glu	Phe	Val	Leu	Leu	Gly	Leu	Ser	Gln	Asn	Pro	20	25	30	
Asn	Val	Gln	Glu	Ile	Val	Phe	Val	Val	Phe	Leu	Phe	Val	Tyr	Ile	Ala	35	40	45	
Thr	Val	Gly	Gly	Asn	Met	Leu	Ile	Val	Val	Thr	Ile	Leu	Ser	Ser	Pro	50	55	60	
Ala	Leu	Leu	Val	Ser	Pro	Met	Tyr	Phe	Phe	Leu	Gly	Phe	Leu	Ser	Phe	65	70	75	80
Leu	Asp	Ala	Cys	Phe	Ser	Ser	Val	Ile	Thr	Pro	Lys	Met	Ile	Val	Asp	85	90	95	
Ser	Leu	Tyr	Val	Thr	Lys	Thr	Ile	Ser	Phe	Glu	Gly	Cys	Met	Met	Gln	100	105	110	
Leu	Phe	Ala	Glu	His	Phe	Phe	Ala	Gly	Val	Glu	Val	Ile	Val	Leu	Thr	115	120	125	
Ala	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Lys	Pro	Leu	His	Tyr	130	135	140	
Ser	Ser	Ile	Met	Asn	Arg	Arg	Leu	Cys	Gly	Ile	Leu	Met	Gly	Val	Ala	145	150	155	160
Trp	Thr	Gly	Gly	Leu	Leu	His	Ser	Met	Ile	Gln	Ile	Leu	Phe	Thr	Phe	165	170	175	
Gln	Leu	Pro	Phe	Cys	Gly	Pro	Asn	Val	Ile	Asn	His	Phe	Met	Cys	Asp	180	185	190	
Leu	Tyr	Pro	Leu	Leu	Glu	Leu	Ala	Cys	Thr	Asp	Thr	His	Ile	Phe	Gly	195	200	205	
Leu	Met	Val	Val	Ile	Asn	Ser	Gly	Phe	Ile	Cys	Ile	Ile	Asn	Phe	Ser	210	215	220	
Leu	Leu	Leu	Val	Ser	Tyr	Ala	Val	Ile	Leu	Leu	Ser	Leu	Arg	Thr	His	225	230	235	240

Ser Ser Glu Gly Arg Trp Lys Ala Leu Ser Thr Cys Gly Ser His Ile
 245 250 255

Ala Val Val Ile Leu Phe Phe Val Pro Cys Ile Phe Val Tyr Thr Arg
 260 265 270

Pro Pro Ser Ala Phe Ser Leu Asp Lys Met Ala Ala Ile Phe Tyr Ile
 275 280 285

Ile Leu Asn Pro Leu Leu Asn Pro Leu Ile Tyr Thr Phe Arg Asn Lys
 290 295 300

Glu Val Lys Gln Ala Met Arg Arg Ile Trp Asn Arg Leu Met Val Val
 305 310 315 320

Ser Asp Glu Lys Glu Asn Ile Lys Leu
 325

<210> 37

<211> 963

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (960)

<223>

<400> 37

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 Met Ser Ser Cys Asn Phe Thr His Ala Thr Cys Val Leu Ile Gly Ile
 1 5 10 15

cca gga tta gag aaa gcc cat ttc tgg gtt ggc ttc ccc ctc ctt tcc 96
 Pro Gly Leu Glu Lys Ala His Phe Trp Val Gly Phe Pro Leu Leu Ser
 20 25 30

atg tat gta gtg gca atg tgt gga aac tgc atc gtg gtc ttc atc gta 144
 Met Tyr Val Val Ala Met Cys Gly Asn Cys Ile Val Val Phe Ile Val
 35 40 45

agg acg gaa cgc agc ctg cac gct cgg atg tac ctc ttt ctc tgc atg 192
 Arg Thr Glu Arg Ser Leu His Ala Pro Met Tyr Leu Phe Leu Cys Met
 50 55 60

ctt gca gcc att gac ctg gcc tta tcc aca tcc acc atg cct aag atc 240
 Leu Ala Ala Ile Asp Leu Ala Leu Ser Thr Ser Thr Met Pro Lys Ile
 65 70 75 80

ctt gcc ctt ttc tgg ttt gat tcc cga gag att agc att gag gcc tgt 288
 Leu Ala Leu Phe Trp Phe Asp Ser Arg Glu Ile Ser Ile Glu Ala Cys

85										90					95					
ctt	acc	cag	atg	ttc	ttt	att	cat	gcc	ctc	tca	gcc	att	gaa	tcc	acc	336				
Leu	Thr	Gln	Met	Phe	Phe	Ile	His	Ala	Leu	Ser	Ala	Ile	Glu	Ser	Thr					
		100						105					110							
atc	ctg	ctg	gcc	atg	gcc	ttt	gac	cgt	tat	gtg	gcc	atc	tgc	cac	cca	384				
Ile	Leu	Leu	Ala	Met	Ala	Phe	Asp	Arg	Tyr	Val	Ala	Ile	Cys	His	Pro					
		115					120					125								
ctg	cgc	cat	gct	gca	gtg	ctc	aac	aat	aca	gta	aca	gcc	cag	att	ggc	432				
Leu	Arg	His	Ala	Ala	Val	Leu	Asn	Asn	Thr	Val	Thr	Ala	Gln	Ile	Gly					
	130					135					140									
atc	gtg	gct	gtg	gtc	cgc	gga	tcc	ctc	ttt	ttt	ttc	cca	ctg	cct	ctg	480				
Ile	Val	Ala	Val	Val	Arg	Gly	Ser	Leu	Phe	Phe	Phe	Pro	Leu	Pro	Leu					
145					150				155						160					
ctg	atc	aag	cgg	ctg	gcc	ttc	tgc	cac	tcc	aat	gtc	ctc	tcg	cac	tcc	528				
Leu	Ile	Lys	Arg	Leu	Ala	Phe	Cys	His	Ser	Asn	Val	Leu	Ser	His	Ser					
				165				170						175						
tat	tgt	gtc	cac	cag	gat	gta	atg	aag	ttg	gcc	tat	gca	gac	act	ttg	576				
Tyr	Cys	Val	His	Gln	Asp	Val	Met	Lys	Leu	Ala	Tyr	Ala	Asp	Thr	Leu					
			180					185					190							
ccc	aat	gtg	gta	tat	ggg	ctt	act	gcc	att	ctg	ctg	gtc	atg	ggc	gtg	624				
Pro	Asn	Val	Val	Tyr	Gly	Leu	Thr	Ala	Ile	Leu	Leu	Val	Met	Gly	Val					
		195				200						205								
gac	gta	atg	ttc	atc	tcc	ttg	tcc	tat	ttt	ctg	ata	ata	cga	acg	gtt	672				
Asp	Val	Met	Phe	Ile	Ser	Leu	Ser	Tyr	Phe	Leu	Ile	Ile	Arg	Thr	Val					
	210					215					220									
ctg	caa	ctg	cct	tcc	aag	tca	gag	cgg	gcc	aag	gcc	ttt	gga	acc	tgt	720				
Leu	Gln	Leu	Pro	Ser	Lys	Ser	Glu	Arg	Ala	Lys	Ala	Phe	Gly	Thr	Cys					
225					230					235					240					
gtg	tca	cac	att	ggg	gtg	gta	ctc	gcc	ttc	tat	gtg	cca	ctt	att	ggc	768				
Val	Ser	His	Ile	Gly	Val	Val	Leu	Ala	Phe	Tyr	Val	Pro	Leu	Ile	Gly					
				245				250						255						
ctc	tca	gtt	gta	cac	cgc	ttt	gga	aac	agc	ctt	cat	ccc	att	gtg	cgt	816				
Leu	Ser	Val	Val	His	Arg	Phe	Gly	Asn	Ser	Leu	His	Pro	Ile	Val	Arg					
			260					265					270							
gtt	gtc	atg	ggg	gac	atc	tac	ctg	ctg	ctg	cct	cct	gtc	atc	aat	ccc	864				
Val	Val	Met	Gly	Asp	Ile	Tyr	Leu	Leu	Leu	Pro	Pro	Val	Ile	Asn	Pro					
		275					280					285								
atc	atc	tat	ggg	gcc	aaa	acc	aaa	cag	atc	aga	aca	cgg	gtg	ctg	gct	912				
Ile	Ile	Tyr	Gly	Ala	Lys	Thr	Lys	Gln	Ile	Arg	Thr	Arg	Val	Leu	Ala					
	290					295				300										
atg	ttc	aag	atc	agc	tgt	gac	aag	gac	ttg	cag	gct	gtg	gga	ggc	aag	960				
Met	Phe	Lys	Ile	Ser	Cys	Asp	Lys	Asp	Leu	Gln	Ala	Val	Gly	Gly	Lys					
305					310					315					320					
tga																963				

<210> 38

<211> 320

<212> PRT

<213> Homo Sapiens

<400> 38

Met Ser Ser Cys Asn Phe Thr His Ala Thr Cys Val Leu Ile Gly Ile
1 5 10 15

Pro Gly Leu Glu Lys Ala His Phe Trp Val Gly Phe Pro Leu Leu Ser
20 25 30

Met Tyr Val Val Ala Met Cys Gly Asn Cys Ile Val Val Phe Ile Val
35 40 45

Arg Thr Glu Arg Ser Leu His Ala Pro Met Tyr Leu Phe Leu Cys Met
50 55 60

Leu Ala Ala Ile Asp Leu Ala Leu Ser Thr Ser Thr Met Pro Lys Ile
65 70 75 80

Leu Ala Leu Phe Trp Phe Asp Ser Arg Glu Ile Ser Ile Glu Ala Cys
85 90 95

Leu Thr Gln Met Phe Phe Ile His Ala Leu Ser Ala Ile Glu Ser Thr
100 105 110

Ile Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys His Pro
115 120 125

Leu Arg His Ala Ala Val Leu Asn Asn Thr Val Thr Ala Gln Ile Gly
130 135 140

Ile Val Ala Val Val Arg Gly Ser Leu Phe Phe Phe Pro Leu Pro Leu
145 150 155 160

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

Tyr Cys Val His Gln Asp Val Met Lys Leu Ala Tyr Ala Asp Thr Leu
180 185 190

Pro Asn Val Val Tyr Gly Leu Thr Ala Ile Leu Leu Val Met Gly Val
195 200 205

Asp Val Met Phe Ile Ser Leu Ser Tyr Phe Leu Ile Ile Arg Thr Val
210 215 220

Leu Gln Leu Pro Ser Lys Ser Glu Arg Ala Lys Ala Phe Gly Thr Cys
225 230 235 240

Val Ser His Ile Gly Val Val Leu Ala Phe Tyr Val Pro Leu Ile Gly

	245		250		255
Leu Ser Val	Val His Arg Phe Gly Asn Ser Leu His Pro Ile Val Arg				
	260		265		270
Val Val Met Gly Asp Ile Tyr Leu Leu Leu Pro Pro Val Ile Asn Pro					
	275		280		285
Ile Ile Tyr Gly Ala Lys Thr Lys Gln Ile Arg Thr Arg Val Leu Ala					
	290		295		300
Met Phe Lys Ile Ser Cys Asp Lys Asp Leu Gln Ala Val Gly Gly Lys					
305		310		315	320

<210> 39

<211> 924

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (921)

<223>

<400> 39

atg ctc aat ttc acc gat gtg aca gag ttc att ctt ttg ggg cta acg	48
Met Leu Asn Phe Thr Asp Val Thr Glu Phe Ile Leu Leu Gly Leu Thr	
1 5 10 15	
agc cgt cga gaa tgg caa gtt ctc ttc ttc atc atc ttt ctt gtg gtc	96
Ser Arg Arg Glu Trp Gln Val Leu Phe Phe Ile Ile Phe Leu Val Val	
20 25 30	
tac atc atc acc atg gtg ggc aat atc ggc atg atg gtg tta atc aag	144
Tyr Ile Ile Thr Met Val Gly Asn Ile Gly Met Met Val Leu Ile Lys	
35 40 45	
gtc agt cct cag ctt aac aac ccc atg tac ttt ttc ctc agt cac ttg	192
Val Ser Pro Gln Leu Asn Asn Pro Met Tyr Phe Phe Leu Ser His Leu	
50 55 60	
tca ttt gtt gat gtg tgg ttt tct tcc aat gtc acc cct aaa atg ttg	240
Ser Phe Val Asp Val Trp Phe Ser Ser Asn Val Thr Pro Lys Met Leu	
65 70 75 80	
gaa aac ctg ttt tca gat aaa aaa aca att act tat gct ggt tgt tta	288
Glu Asn Leu Phe Ser Asp Lys Lys Thr Ile Thr Tyr Ala Gly Cys Leu	
85 90 95	
gta cag tgt ttc ttc ttc att gct ctt gtc cat gtg gaa att ttt att	336
Val Gln Cys Phe Phe Phe Ile Ala Leu Val His Val Glu Ile Phe Ile	

100	105	110	
ctt gct gcg atg gcc ttt gat aga tac atg gca att ggg aat cct ctg Leu Ala Ala Met Ala Phe Asp Arg Tyr Met Ala Ile Gly Asn Pro Leu 115 120 125			384
ctt tat ggc agt aaa atg tca agg gtt gtc tgt att cga ctg att act Leu Tyr Gly Ser Lys Met Ser Arg Val Val Cys Ile Arg Leu Ile Thr 130 135 140			432
ttc cct tac att tat ggt ttt ctg acg agt ctg gca gca aca tta tgg Phe Pro Tyr Ile Tyr Gly Phe Leu Thr Ser Leu Ala Ala Thr Leu Trp 145 150 155 160			480
act tac ggc ttg tac ttc tgt gga aaa att gag atc aac cat ttc tac Thr Tyr Gly Leu Tyr Phe Cys Gly Lys Ile Glu Ile Asn His Phe Tyr 165 170 175			528
tgt gca gat cca cct ctg atc aaa atg gcc tgt gcc ggg acc ttt gta Cys Ala Asp Pro Pro Leu Ile Lys Met Ala Cys Ala Gly Thr Phe Val 180 185 190			576
aaa gaa tat aca atg atc ata ctt gcc ggc att aac ttc aca tat tcc Lys Glu Tyr Thr Met Ile Ile Leu Ala Gly Ile Asn Phe Thr Tyr Ser 195 200 205			624
ctg act gta att atc atc tct tac tta ttc atc ctg att gcc att ctg Leu Thr Val Ile Ile Ile Ser Tyr Leu Phe Ile Leu Ile Ala Ile Leu 210 215 220			672
cga atg cgc tca gca gaa gga agg cag aag gcc ttt tcc aca tgt ggg Arg Met Arg Ser Ala Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys Gly 225 230 235 240			720
tcc cat ctg aca gct gtc att ata ttc tat ggt act ctg atc ttc atg Ser His Leu Thr Ala Val Ile Ile Phe Tyr Gly Thr Leu Ile Phe Met 245 250 255			768
tat ctg aga cgt ccc aca gag gag tct gtg gag cag ggg aag atg gtg Tyr Leu Arg Arg Pro Thr Glu Glu Ser Val Glu Gln Gly Lys Met Val 260 265 270			816
gct gtg ttc tat acc aca gtg atc ccc atg ttg aat ccc atg atc tac Ala Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Pro Met Ile Tyr 275 280 285			864
agt ctg agg aac aag gat gtg aaa aag gcc atg atg aaa gtg atc agc Ser Leu Arg Asn Lys Asp Val Lys Lys Ala Met Met Lys Val Ile Ser 290 295 300			912
aga tca tgt taa Arg Ser Cys 305			924

<210> 40

<211> 307

<212> PRT

<213> Homo Sapiens

<400> 40

Met Leu Asn Phe Thr Asp Val Thr Glu Phe Ile Leu Leu Gly Leu Thr
 1 5 10 15

Ser Arg Arg Glu Trp Gln Val Leu Phe Phe Ile Ile Phe Leu Val Val
 20 25 30

Tyr Ile Ile Thr Met Val Gly Asn Ile Gly Met Met Val Leu Ile Lys
 35 40 45

Val Ser Pro Gln Leu Asn Asn Pro Met Tyr Phe Phe Leu Ser His Leu
 50 55 60

Ser Phe Val Asp Val Trp Phe Ser Ser Asn Val Thr Pro Lys Met Leu
 65 70 75 80

Glu Asn Leu Phe Ser Asp Lys Lys Thr Ile Thr Tyr Ala Gly Cys Leu
 85 90 95

Val Gln Cys Phe Phe Phe Ile Ala Leu Val His Val Glu Ile Phe Ile
 100 105 110

Leu Ala Ala Met Ala Phe Asp Arg Tyr Met Ala Ile Gly Asn Pro Leu
 115 120 125

Leu Tyr Gly Ser Lys Met Ser Arg Val Val Cys Ile Arg Leu Ile Thr
 130 135 140

Phe Pro Tyr Ile Tyr Gly Phe Leu Thr Ser Leu Ala Ala Thr Leu Trp
 145 150 155 160

Thr Tyr Gly Leu Tyr Phe Cys Gly Lys Ile Glu Ile Asn His Phe Tyr
 165 170 175

Cys Ala Asp Pro Pro Leu Ile Lys Met Ala Cys Ala Gly Thr Phe Val
 180 185 190

Lys Glu Tyr Thr Met Ile Ile Leu Ala Gly Ile Asn Phe Thr Tyr Ser
 195 200 205

Leu Thr Val Ile Ile Ile Ser Tyr Leu Phe Ile Leu Ile Ala Ile Leu
 210 215 220

Arg Met Arg Ser Ala Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys Gly
 225 230 235 240

Ser His Leu Thr Ala Val Ile Ile Phe Tyr Gly Thr Leu Ile Phe Met
 245 250 255

Tyr Leu Arg Arg Pro Thr Glu Glu Ser Val Glu Gln Gly Lys Met Val
 260 265 270

Ala Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Pro Met Ile Tyr
 275 280 285

Ser Leu Arg Asn Lys Asp Val Lys Lys Ala Met Met Lys Val Ile Ser
 290 295 300

Arg Ser Cys
 305

<210> 41
 <211> 918

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(915)

<223>

<400> 41
 atg tcc aac aca aat ggc agt gca atc aca gaa ttc att tta ctt ggg 48
 Met Ser Asn Thr Asn Gly Ser Ala Ile Thr Glu Phe Ile Leu Leu Gly
 1 5 10 15
 ctc aca gat tgc ccg gaa ctc cag tct ctg ctt ttt gtg ctg ttt ctg 96
 Leu Thr Asp Cys Pro Glu Leu Gln Ser Leu Leu Phe Val Leu Phe Leu
 20 25 30
 gtt gtt tac ctc gtc acc ctg cta ggc aac ctg ggc atg ata atg tta 144
 Val Val Tyr Leu Val Thr Leu Leu Gly Asn Leu Gly Met Ile Met Leu
 35 40 45
 atg aga ctg gac tct cgc ctt cac acg ccc atg tac ttc ttc ctc act 192
 Met Arg Leu Asp Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Thr
 50 55 60
 aac tta gcc ttt gtg gat ttg tgc tat aca tca aat gca acc ccg cag 240
 Asn Leu Ala Phe Val Asp Leu Cys Tyr Thr Ser Asn Ala Thr Pro Gln
 65 70 75 80
 atg tcg act aat atc gta tct gag aag acc att tcc ttt gct ggt tgc 288
 Met Ser Thr Asn Ile Val Ser Glu Lys Thr Ile Ser Phe Ala Gly Cys
 85 90 95
 ttt aca cag tgc tac att ttc att gcc ctt cta ctc act gag ttt tac 336
 Phe Thr Gln Cys Tyr Ile Phe Ile Ala Leu Leu Leu Thr Glu Phe Tyr
 100 105 110
 atg ctg gca gca atg gcc tat gac cgc tat gtg gcc ata tat gac cct 384
 Met Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Tyr Asp Pro
 115 120 125
 ctg cgc tac agt gtg aaa acg tcc agg aga gtt tgc atc tgc ttg gcc 432
 Leu Arg Tyr Ser Val Lys Thr Ser Arg Arg Val Cys Ile Cys Leu Ala

130	135	140	
aca ttt ccc tat gtc tat ggc ttc tca gat gga ctc ttc cag gcc atc			480
Thr Phe Pro Tyr Val Tyr Gly Phe Ser Asp Gly Leu Phe Gln Ala Ile			
145	150	155	160
ctg acc ttc cgc ctg acc ttc tgt aga tcc aat gtc atc aac cac ttc			528
Leu Thr Phe Arg Leu Thr Phe Cys Arg Ser Asn Val Ile Asn His Phe			
	165	170	175
tac tgt gct gac ccg ccg ctc att aag ctt tct tgt tct gat act tat			576
Tyr Cys Ala Asp Pro Pro Leu Ile Lys Leu Ser Cys Ser Asp Thr Tyr			
	180	185	190
gtc aaa gag cat gcc atg ttc ata tct gct ggc ttc aac ctc tcc agc			624
Val Lys Glu His Ala Met Phe Ile Ser Ala Gly Phe Asn Leu Ser Ser			
	195	200	205
tcc ctc acc atc gtc ttg gtg tcc tat gcc ttc att ctt gct gcc atc			672
Ser Leu Thr Ile Val Leu Val Ser Tyr Ala Phe Ile Leu Ala Ala Ile			
	210	215	220
ctc cgg atc aaa tca gca gag gga agg cac aag gca ttc tcc acc tgt			720
Leu Arg Ile Lys Ser Ala Glu Gly Arg His Lys Ala Phe Ser Thr Cys			
	225	230	235
ggg tcc cat atg atg gct gtc acc ctg ttt tat ggg act ctc ttt tgc			768
Gly Ser His Met Met Ala Val Thr Leu Phe Tyr Gly Thr Leu Phe Cys			
	245	250	255
atg tat ata aga cca cca aca gat aag act gtt gag gaa tct aaa ata			816
Met Tyr Ile Arg Pro Pro Thr Asp Lys Thr Val Glu Glu Ser Lys Ile			
	260	265	270
ata gct gtc ttt tac acc ttt gtg agt ccg gta ctt aat cca ttg atc			864
Ile Ala Val Phe Tyr Thr Phe Val Ser Pro Val Leu Asn Pro Leu Ile			
	275	280	285
tac agt ctg agg aat aaa gat gtg aag cag gcc ttg aag aat gtc ctg			912
Tyr Ser Leu Arg Asn Lys Asp Val Lys Gln Ala Leu Lys Asn Val Leu			
	290	295	300
aga tga			918
Arg			
305			

<210> 42

<211> 305

<212> PRT

<213> Homo Sapiens

<400> 42

Met Ser Asn Thr Asn Gly Ser Ala Ile Thr Glu Phe Ile Leu Leu Gly
1 5 10 15

Leu Thr Asp Cys Pro Glu Leu Gln Ser Leu Leu Phe Val Leu Phe Leu
20 25 30

Val Val Tyr Leu Val Thr Leu Leu Gly Asn Leu Gly Met Ile Met Leu
 35 40 45

Met Arg Leu Asp Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Thr
 50 55 60

Asn Leu Ala Phe Val Asp Leu Cys Tyr Thr Ser Asn Ala Thr Pro Gln
 65 70 75 80

Met Ser Thr Asn Ile Val Ser Glu Lys Thr Ile Ser Phe Ala Gly Cys
 85 90 95

Phe Thr Gln Cys Tyr Ile Phe Ile Ala Leu Leu Leu Thr Glu Phe Tyr
 100 105 110

Met Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Tyr Asp Pro
 115 120 125

Leu Arg Tyr Ser Val Lys Thr Ser Arg Arg Val Cys Ile Cys Leu Ala
 130 135 140

Thr Phe Pro Tyr Val Tyr Gly Phe Ser Asp Gly Leu Phe Gln Ala Ile
 145 150 155 160

Leu Thr Phe Arg Leu Thr Phe Cys Arg Ser Asn Val Ile Asn His Phe
 165 170 175

Tyr Cys Ala Asp Pro Pro Leu Ile Lys Leu Ser Cys Ser Asp Thr Tyr
 180 185 190

Val Lys Glu His Ala Met Phe Ile Ser Ala Gly Phe Asn Leu Ser Ser
 195 200 205

Ser Leu Thr Ile Val Leu Val Ser Tyr Ala Phe Ile Leu Ala Ala Ile
 210 215 220

Leu Arg Ile Lys Ser Ala Glu Gly Arg His Lys Ala Phe Ser Thr Cys
 225 230 235 240

Gly Ser His Met Met Ala Val Thr Leu Phe Tyr Gly Thr Leu Phe Cys
 245 250 255

Met Tyr Ile Arg Pro Pro Thr Asp Lys Thr Val Glu Glu Ser Lys Ile
 260 265 270

Ile Ala Val Phe Tyr Thr Phe Val Ser Pro Val Leu Asn Pro Leu Ile
 275 280 285

Tyr Ser Leu Arg Asn Lys Asp Val Lys Gln Ala Leu Lys Asn Val Leu
 290 295 300

Arg
305

<210> 43
<211> 951

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(948)

<223>

<400> 43

atg gga aaa cca ggc aga gtg aac caa acc act gtt tca gac ttc ctc	48
Met Gly Lys Pro Gly Arg Val Asn Gln Thr Thr Val Ser Asp Phe Leu	
1 5 10 15	
ctt cta gga ctc tct gag tgg cca gag gag cag cct ctt ctg ttt ggc	96
Leu Leu Gly Leu Ser Glu Trp Pro Glu Glu Gln Pro Leu Leu Phe Gly	
20 25 30	
atc ttc ctt ggc atg tac ctg gtc acc atg gtg ggg aac ctg ctc att	144
Ile Phe Leu Gly Met Tyr Leu Val Thr Met Val Gly Asn Leu Leu Ile	
35 40 45	
atc ctg gcc atc agc tct gac cca cac ctc cat act ccc atg tac ttc	192
Ile Leu Ala Ile Ser Ser Asp Pro His Leu His Thr Pro Met Tyr Phe	
50 55 60	
ttt ctg gcc aac ctg tca tta act gat gcc tgt ttc act tct gcc tcc	240
Phe Leu Ala Asn Leu Ser Leu Thr Asp Ala Cys Phe Thr Ser Ala Ser	
65 70 75 80	
atc ccc aaa atg ctg gcc aac att cat acc cag agt cag atc atc tcg	288
Ile Pro Lys Met Leu Ala Asn Ile His Thr Gln Ser Gln Ile Ile Ser	
85 90 95	
tat tct ggg tgt ctt gca cag cta tat ttc ctc ctt atg ttt ggt ggc	336
Tyr Ser Gly Cys Leu Ala Gln Leu Tyr Phe Leu Leu Met Phe Gly Gly	
100 105 110	
ctt gac aac tgc ctg ctg gct gtg atg gca tat gac cgc tat gtg gcc	384
Leu Asp Asn Cys Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala	
115 120 125	
atc tgc caa cca ctc cat tac agc aca tct atg agt ccc cag ctc tgt	432
Ile Cys Gln Pro Leu His Tyr Ser Thr Ser Met Ser Pro Gln Leu Cys	
130 135 140	
gca cta atg ctg ggt gtg tgc tgg gtg cta acc aac tgt cct gcc ctg	480
Ala Leu Met Leu Gly Val Cys Trp Val Leu Thr Asn Cys Pro Ala Leu	
145 150 155 160	
atg cac aca ctg ttg ctg acc cgc gtg gct ttc tgt gcc cag aaa gcc	528
Met His Thr Leu Leu Leu Thr Arg Val Ala Phe Cys Ala Gln Lys Ala	

165								170				175				
atc	cct	cat	ttc	tat	tgt	gat	cct	agt	gct	ctc	ctg	aag	ctt	gcc	tgc	576
Ile	Pro	His	Phe	Tyr	Cys	Asp	Pro	Ser	Ala	Leu	Leu	Lys	Leu	Ala	Cys	
			180					185					190			
tca	gat	acc	cat	gta	aac	gag	ctg	atg	atc	atc	acc	atg	ggc	ttg	ctg	624
Ser	Asp	Thr	His	Val	Asn	Glu	Leu	Met	Ile	Ile	Thr	Met	Gly	Leu	Leu	
		195					200					205				
ttc	ctc	act	gtt	ccc	ctc	ctg	ctg	atc	gtc	ttc	tcc	tat	gtc	cgc	att	672
Phe	Leu	Thr	Val	Pro	Leu	Leu	Leu	Ile	Val	Phe	Ser	Tyr	Val	Arg	Ile	
	210					215					220					
ttc	tgg	gct	gtg	ttt	gtc	atc	tca	tct	cct	gga	ggg	aga	tgg	aag	gcc	720
Phe	Trp	Ala	Val	Phe	Val	Ile	Ser	Ser	Pro	Gly	Gly	Arg	Trp	Lys	Ala	
225					230					235					240	
ttc	tct	acc	tgt	ggg	tct	cat	ctc	acg	gtg	gtt	ctg	ctc	ttc	tat	ggg	768
Phe	Ser	Thr	Cys	Gly	Ser	His	Leu	Thr	Val	Val	Leu	Leu	Phe	Tyr	Gly	
			245					250						255		
tct	ctt	atg	ggg	gtg	tat	tta	ctt	cct	cca	tca	act	tac	tct	aca	gag	816
Ser	Leu	Met	Gly	Val	Tyr	Leu	Leu	Pro	Pro	Ser	Thr	Tyr	Ser	Thr	Glu	
			260					265					270			
agg	gaa	agt	agg	gct	gct	gtt	ctc	tat	atg	gtg	att	att	ccc	acg	cta	864
Arg	Glu	Ser	Arg	Ala	Ala	Val	Leu	Tyr	Met	Val	Ile	Ile	Pro	Thr	Leu	
		275					280					285				
aac	cca	ttc	att	lat	agc	ttg	agg	aac	aga	gac	atg	aag	gag	gct	ttg	912
Asn	Pro	Phe	Ile	Tyr	Ser	Leu	Arg	Asn	Arg	Asp	Met	Lys	Glu	Ala	Leu	
	290					295					300					
ggg	aaa	ctt	ttt	gtc	agt	gga	aaa	aca	ttc	ttt	tta	tga				951
Gly	Lys	Leu	Phe	Val	Ser	Gly	Lys	Thr	Phe	Phe	Leu					
305					310				315							

<210> 44

<211> 316

<212> PRT

<213> Homo Sapiens

<400> 44

Met	Gly	Lys	Pro	Gly	Arg	Val	Asn	Gln	Thr	Thr	Val	Ser	Asp	Phe	Leu	
1				5					10					15		
Leu	Leu	Gly	Leu	Ser	Glu	Trp	Pro	Glu	Glu	Gln	Pro	Leu	Leu	Phe	Gly	
		20					25					30				
Ile	Phe	Leu	Gly	Met	Tyr	Leu	Val	Thr	Met	Val	Gly	Asn	Leu	Leu	Ile	
		35				40					45					
Ile	Leu	Ala	Ile	Ser	Ser	Asp	Pro	His	Leu	His	Thr	Pro	Met	Tyr	Phe	
	50					55					60					

Phe Leu Ala Asn Leu Ser Leu Thr Asp Ala Cys Phe Thr Ser Ala Ser
65 70 75 80

Ile Pro Lys Met Leu Ala Asn Ile His Thr Gln Ser Gln Ile Ile Ser
85 90 95

Tyr Ser Gly Cys Leu Ala Gln Leu Tyr Phe Leu Leu Met Phe Gly Gly
100 105 110

Leu Asp Asn Cys Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala
115 120 125

Ile Cys Gln Pro Leu His Tyr Ser Thr Ser Met Ser Pro Gln Leu Cys
130 135 140

Ala Leu Met Leu Gly Val Cys Trp Val Leu Thr Asn Cys Pro Ala Leu
145 150 155 160

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

Ile Pro His Phe Tyr Cys Asp Pro Ser Ala Leu Leu Lys Leu Ala Cys
180 185 190

Ser Asp Thr His Val Asn Glu Leu Met Ile Ile Thr Met Gly Leu Leu
195 200 205

Phe Leu Thr Val Pro Leu Leu Leu Ile Val Phe Ser Tyr Val Arg Ile
210 215 220

Phe Trp Ala Val Phe Val Ile Ser Ser Pro Gly Gly Arg Trp Lys Ala
225 230 235 240

Phe Ser Thr Cys Gly Ser His Leu Thr Val Val Leu Leu Phe Tyr Gly
245 250 255

Ser Leu Met Gly Val Tyr Leu Leu Pro Pro Ser Thr Tyr Ser Thr Glu
260 265 270

Arg Glu Ser Arg Ala Ala Val Leu Tyr Met Val Ile Ile Pro Thr Leu
275 280 285

Asn Pro Phe Ile Tyr Ser Leu Arg Asn Arg Asp Met Lys Glu Ala Leu
290 295 300

Gly Lys Leu Phe Val Ser Gly Lys Thr Phe Phe Leu
305 310 315

<210> 45

<211> 975

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(972)

<223>

<400> 45

atg gga atg tcc aac ctg aca aga ctc tct gaa ttt att ctc ttg gga	48
Met Gly Met Ser Asn Leu Thr Arg Leu Ser Glu Phe Ile Leu Leu Gly	
1 5 10 15	
ctc tcc tct cgg tct gaa gac cag agg cca ctc ttt gcc ctc ttt ctt	96
Leu Ser Ser Arg Ser Glu Asp Gln Arg Pro Leu Phe Ala Leu Phe Leu	
20 25 30	
atc ata tac ctg gtc act ttg atg gga aat ctg ctc atc atc ttg gct	144
Ile Ile Tyr Leu Val Thr Leu Met Gly Asn Leu Leu Ile Ile Leu Ala	
35 40 45	
atc cac tct gat cct cga ctt caa aac cct atg tat ttt ttc cta agc	192
Ile His Ser Asp Pro Arg Leu Gln Asn Pro Met Tyr Phe Phe Leu Ser	
50 55 60	
atc ttg tcc ttt gct gat att tgc tac aca aca gtc ata gtc cca aag	240
Ile Leu Ser Phe Ala Asp Ile Cys Tyr Thr Thr Val Ile Val Pro Lys	
65 70 75 80	
atg ctc gtg aac ttc tta tca gag aaa aag acc att tcc tat gct gaa	288
Met Leu Val Asn Phe Leu Ser Glu Lys Lys Thr Ile Ser Tyr Ala Glu	
85 90 95	
tgt ctg gca cag atg tat ttc ttc ctg gtt ttt gga aac ata gat agt	336
Cys Leu Ala Gln Met Tyr Phe Phe Leu Val Phe Gly Asn Ile Asp Ser	
100 105 110	
tat ctc ctg gcg gct atg gcc atc aac cgc tgt gta gcc att tgt aac	384
Tyr Leu Leu Ala Ala Met Ala Ile Asn Arg Cys Val Ala Ile Cys Asn	
115 120 125	
cca ttc cat tat gtc act gtt atg aac cgc aga tgc tgt gtg ttg cta	432
Pro Phe His Tyr Val Thr Val Met Asn Arg Arg Cys Cys Val Leu Leu	
130 135 140	
cta gca ttc ccc atc act ttc tcc tat ttc cac tct ctc cta cat gtc	480
Leu Ala Phe Pro Ile Thr Phe Ser Tyr Phe His Ser Leu Leu His Val	
145 150 155 160	
ctc ctg gtg aat cgg ctc acc ttt tgt aca tca aat gtt atc cat cat	528
Leu Leu Val Asn Arg Leu Thr Phe Cys Thr Ser Asn Val Ile His His	
165 170 175	
ttt ttt tgt gat gtc aac cct gtg ctg aaa ctg tcc tgc tcc tcc acc	576
Phe Phe Cys Asp Val Asn Pro Val Leu Lys Leu Ser Cys Ser Ser Thr	
180 185 190	
ttt gtc aat gaa att gtg gcc atg aca gaa ggg ctg gcc tct gtg atg	624

Phe	Val	Asn	Glu	Ile	Val	Ala	Met	Thr	Glu	Gly	Leu	Ala	Ser	Val	Met	
		195					200					205				
gct	cca	ttt	gtc	tgt	atc	atc	atc	tct	tat	cta	aga	att	ctc	atc	gct	672
Ala	Pro	Phe	Val	Cys	Ile	Ile	Ile	Ser	Tyr	Leu	Arg	Ile	Leu	Ile	Ala	
	210					215					220					
ggt	ctc	aag	att	ccc	tca	gca	gct	gga	aaa	cac	aaa	gcc	ttc	tcc	acc	720
Val	Leu	Lys	Ile	Pro	Ser	Ala	Ala	Gly	Lys	His	Lys	Ala	Phe	Ser	Thr	
	225				230					235					240	
tgc	agc	tcc	cat	ctc	act	gtg	gtg	att	ctg	ttt	tat	ggg	agt	att	agc	768
Cys	Ser	Ser	His	Leu	Thr	Val	Val	Ile	Leu	Phe	Tyr	Gly	Ser	Ile	Ser	
				245					250					255		
tat	gtc	tat	ttg	cag	cct	ttg	tcc	agc	tat	act	gtc	aag	gac	cga	ata	816
Tyr	Val	Tyr	Leu	Gln	Pro	Leu	Ser	Ser	Tyr	Thr	Val	Lys	Asp	Arg	Ile	
			260					265					270			
gca	aca	atc	aac	tac	act	gtg	ttg	aca	tca	gtg	ttg	aac	cca	ttt	atc	864
Ala	Thr	Ile	Asn	Tyr	Thr	Val	Leu	Thr	Ser	Val	Leu	Asn	Pro	Phe	Ile	
		275					280					285				
tac	agt	tta	aga	aac	aaa	gac	atg	aaa	cgg	ggc	tta	cag	aaa	ttg	ata	912
Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Met	Lys	Arg	Gly	Leu	Gln	Lys	Leu	Ile	
	290					295					300					
aac	aag	att	aag	tct	caa	atg	agt	agg	ttc	tct	aca	aag	acc	aat	aaa	960
Asn	Lys	Ile	Lys	Ser	Gln	Met	Ser	Arg	Phe	Ser	Thr	Lys	Thr	Asn	Lys	
	305				310					315					320	
atc	tgt	gga	ccc	tga												975
Ile	Cys	Gly	Pro													

<210> 46

<211> 324

<212> PRT

<213> Homo Sapiens

<400> 46

Met	Gly	Met	Ser	Asn	Leu	Thr	Arg	Leu	Ser	Glu	Phe	Ile	Leu	Leu	Gly	
1				5					10					15		
Leu	Ser	Ser	Arg	Ser	Glu	Asp	Gln	Arg	Pro	Leu	Phe	Ala	Leu	Phe	Leu	
			20					25					30			
Ile	Ile	Tyr	Leu	Val	Thr	Leu	Met	Gly	Asn	Leu	Leu	Ile	Ile	Leu	Ala	
		35					40					45				
Ile	His	Ser	Asp	Pro	Arg	Leu	Gln	Asn	Pro	Met	Tyr	Phe	Phe	Leu	Ser	
	50					55					60					
Ile	Leu	Ser	Phe	Ala	Asp	Ile	Cys	Tyr	Thr	Thr	Val	Ile	Val	Pro	Lys	
65					70					75					80	

Met Leu Val Asn Phe Leu Ser Glu Lys Lys Thr Ile Ser Tyr Ala Glu
85 90 95

Cys Leu Ala Gln Met Tyr Phe Phe Leu Val Phe Gly Asn Ile Asp Ser
100 105 110

Tyr Leu Leu Ala Ala Met Ala Ile Asn Arg Cys Val Ala Ile Cys Asn
115 120 125

Pro Phe His Tyr Val Thr Val Met Asn Arg Arg Cys Cys Val Leu Leu
130 135 140

Leu Ala Phe Pro Ile Thr Phe Ser Tyr Phe His Ser Leu Leu His Val
145 150 155 160

Leu Leu Val Asn Arg Leu Thr Phe Cys Thr Ser Asn Val Ile His His
165 170 175

Phe Phe Cys Asp Val Asn Pro Val Leu Lys Leu Ser Cys Ser Ser Thr
180 185 190

Phe Val Asn Glu Ile Val Ala Met Thr Glu Gly Leu Ala Ser Val Met
195 200 205

Ala Pro Phe Val Cys Ile Ile Ile Ser Tyr Leu Arg Ile Leu Ile Ala
210 215 220

Val Leu Lys Ile Pro Ser Ala Ala Gly Lys His Lys Ala Phe Ser Thr
225 230 235 240

Cys Ser Ser His Leu Thr Val Val Ile Leu Phe Tyr Gly Ser Ile Ser
245 250 255

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

Ala Thr Ile Asn Tyr Thr Val Leu Thr Ser Val Leu Asn Pro Phe Ile
275 280 285

Tyr Ser Leu Arg Asn Lys Asp Met Lys Arg Gly Leu Gln Lys Leu Ile
290 295 300

Asn Lys Ile Lys Ser Gln Met Ser Arg Phe Ser Thr Lys Thr Asn Lys
305 310 315 320

Ile Cys Gly Pro

<210> 47

<211> 951

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (948)

<223>

<400> 47

atg cct taa atg aca atg gct gct gag aat tcc tcc ttc gtg aca cag	48
Met Pro Met Thr Met Ala Ala Glu Asn Ser Ser Phe Val Thr Gln	
1 5 10 15	
ttt atc ctc gca ggc tta act gac caa ccg gga gtc cag atc ccc ctc	96
Phe Ile Leu Ala Gly Leu Thr Asp Gln Pro Gly Val Gln Ile Pro Leu	
20 25 30	
ttc ttc ctg ttt cta ggc ttc tac gtg gtc act gtg gtg ggg aac ctg	144
Phe Phe Leu Phe Leu Gly Phe Tyr Val Val Thr Val Val Gly Asn Leu	
35 40 45	
ggc ttg ata acc ctg ata agg ctc aac tct cac ttg cac acc cct atg	192
Gly Leu Ile Thr Leu Ile Arg Leu Asn Ser His Leu His Thr Pro Met	
50 55 60	
tac ttc ttc ctc tat aac ttg tcc ttc ata gat ttc tgc tat tcc agt	240
Tyr Phe Phe Leu Tyr Asn Leu Ser Phe Ile Asp Phe Cys Tyr Ser Ser	
65 70 75	
gtt atc act ccc aaa atg ctg atg agc ttt gtc tta aag aag aac agc	288
Val Ile Thr Pro Lys Met Leu Met Ser Phe Val Leu Lys Lys Asn Ser	
80 85 90 95	
atc tcc tac gca ggg tgt atg act cag ctc ttc ttc ttt ctt ttc ttt	336
Ile Ser Tyr Ala Gly Cys Met Thr Gln Leu Phe Phe Phe Leu Phe Phe	
100 105 110	
gtt gtc tct gag tcc ttc atc ctg tca gca atg gcg tat gac cgc tat	384
Val Val Ser Glu Ser Phe Ile Leu Ser Ala Met Ala Tyr Asp Arg Tyr	
115 120 125	
gtg gcc atc tgt aac cca ctg ttg tac atg gtc acc atg tct ccc cag	432
Val Ala Ile Cys Asn Pro Leu Leu Tyr Met Val Thr Met Ser Pro Gln	
130 135 140	
gtg tgt ttt ctc ctt ttg ttg ggt gtc tat ggg atg ggg ttt gct ggg	480
Val Cys Phe Leu Leu Leu Leu Gly Val Tyr Gly Met Gly Phe Ala Gly	
145 150 155	
gcc atg gcc cac aca gcg tgc atg atg ggt gtg acc ttc tgt gcc aat	528
Ala Met Ala His Thr Ala Cys Met Met Gly Val Thr Phe Cys Ala Asn	
160 165 170 175	
aac ctt gtc aac cac tac atg tgt gac atc ctt ccc ctt ctt gag tgt	576
Asn Leu Val Asn His Tyr Met Cys Asp Ile Leu Pro Leu Leu Glu Cys	
180 185 190	

gct tgc acc agc acc tat gtg aat gag ctt gta gtg ttt gtt gtt gtg Ala Cys Thr Ser Thr Tyr Val Asn Glu Leu Val Val Phe Val Val Val	624
195 200 205	
ggc att gat att ggt gtg ccc aca gtc acc atc ttc att tcc tat gct Gly Ile Asp Ile Gly Val Pro Thr Val Thr Ile Phe Ile Ser Tyr Ala	672
210 215 220	
ctc att ctc tcc agc atc ttc cac att gat tcc acg gag ggc agg tcc Leu Ile Leu Ser Ser Ile Phe His Ile Asp Ser Thr Glu Gly Arg Ser	720
225 230 235	
aaa gcc ttc agc acc tgc agc tcc cac ata att gca gtt tct ctg ttc Lys Ala Phe Ser Thr Cys Ser Ser His Ile Ile Ala Val Ser Leu Phe	768
240 245 250 255	
ttt ggg tca gga gca ttc atg tac ctc aaa ccc ttt tct ctt tta gct Phe Gly Ser Gly Ala Phe Met Tyr Leu Lys Pro Phe Ser Leu Leu Ala	816
260 265 270	
atg aac cag ggc aag gtg tct tcc cta ttc tat acc act gtg gtg ccc Met Asn Gln Gly Lys Val Ser Ser Leu Phe Tyr Thr Thr Val Val Pro	864
275 280 285	
atg ctc aac cca tta att tat agc ctg agg aat aag gac gtc aaa gtt Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Val	912
290 295 300	
gct cta aag aaa atc ttg aac aaa aat gca ttc tcc tga Ala Leu Lys Lys Ile Leu Asn Lys Asn Ala Phe Ser	951
305 310 315	

<210> 48

<211> 313

<212> PRT

<213> Homo Sapiens

<400> 48

Met Thr Met Ala Ala Glu Asn Ser Ser Phe Val Thr Gln Phe Ile Leu 1 5 10 15
Ala Gly Leu Thr Asp Gln Pro Gly Val Gln Ile Pro Leu Phe Phe Leu 20 25 30
Phe Leu Gly Phe Tyr Val Val Thr Val Val Gly Asn Leu Gly Leu Ile 35 40 45
Thr Leu Ile Arg Leu Asn Ser His Leu His Thr Pro Met Tyr Phe Phe 50 55 60
Leu Tyr Asn Leu Ser Phe Ile Asp Phe Cys Tyr Ser Ser Val Ile Thr 65 70 75 80
Pro Lys Met Leu Met Ser Phe Val Leu Lys Lys Asn Ser Ile Ser Tyr 85 90 95

Ala Gly Cys Met Thr Gln Leu Phe Phe Phe Leu Phe Phe Val Val Ser
 100 105 110

Glu Ser Phe Ile Leu Ser Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile
 115 120 125

Cys Asn Pro Leu Leu Tyr Met Val Thr Met Ser Pro Gln Val Cys Phe
 130 135 140

Leu Leu Leu Leu Gly Val Tyr Gly Met Gly Phe Ala Gly Ala Met Ala
 145 150 155 160

His Thr Ala Cys Met Met Gly Val Thr Phe Cys Ala Asn Asn Leu Val
 165 170 175

Asn His Tyr Met Cys Asp Ile Leu Pro Leu Leu Glu Cys Ala Cys Thr
 180 185 190

Ser Thr Tyr Val Asn Glu Leu Val Val Phe Val Val Val Gly Ile Asp
 195 200 205

Ile Gly Val Pro Thr Val Thr Ile Phe Ile Ser Tyr Ala Leu Ile Leu
 210 215 220

Ser Ser Ile Phe His Ile Asp Ser Thr Glu Gly Arg Ser Lys Ala Phe
 225 230 235 240

Ser Thr Cys Ser Ser His Ile Ile Ala Val Ser Leu Phe Phe Gly Ser
 245 250 255

Gly Ala Phe Met Tyr Leu Lys Pro Phe Ser Leu Leu Ala Met Asn Gln
 260 265 270

Gly Lys Val Ser Ser Leu Phe Tyr Thr Thr Val Val Pro Met Leu Asn
 275 280 285

Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Lys
 290 295 300

Lys Ile Leu Asn Lys Asn Ala Phe Ser
 305 310

<210> 49

<211> 945

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (942)

<223>

<400> 49

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Met Glu Lys Arg Asn Leu Thr Val Val Arg Glu Phe Val Leu Leu Gly	
1 5 10 15	
ctt cct agc tca gca gag cag cag cac ctc ctg tct gtg ctc ttt ctc	96
Leu Pro Ser Ser Ala Glu Gln Gln His Leu Leu Ser Val Leu Phe Leu	
20 25 30	
tgt atg tat tta gcc acc acc ttg ggg aac atg ctc atc att gcg acg	144
Cys Met Tyr Leu Ala Thr Thr Leu Gly Asn Met Leu Ile Ile Ala Thr	
35 40 45	
att ggc ttt gac tct cac ctc cat tcc cct atg tac ttc ttc ctt agt	192
Ile Gly Phe Asp Ser His Leu His Ser Pro Met Tyr Phe Phe Leu Ser	
50 55 60	
aac ttg gcc ttt gtt gac atc tgc ttt acg tgc act aca gtc ccc caa	240
Asn Leu Ala Phe Val Asp Ile Cys Phe Thr Ser Thr Thr Val Pro Gln	
65 70 75 80	
atg gta gtg aat atc ttg act ggc acc aag act atc tct ttt gca ggc	288
Met Val Val Asn Ile Leu Thr Gly Thr Lys Thr Ile Ser Phe Ala Gly	
85 90 95	
tgc ctc acc cag ctc ttc ttc ttc gtt tct ttt gtg aat atg gac agc	336
Cys Leu Thr Gln Leu Phe Phe Phe Val Ser Phe Val Asn Met Asp Ser	
100 105 110	
ctc ctt ctg tgt gtg atg gcg tat gat aga tat gtg gcg att tgc cac	384
Leu Leu Leu Cys Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His	
115 120 125	
ccc tta cat tac acc gcc aga atg aac ctg tgc ctt tgt gtc cag cta	432
Pro Leu His Tyr Thr Ala Arg Met Asn Leu Cys Leu Cys Val Gln Leu	
130 135 140	
gtg gct gga ctg tgg ctt gtt act tac ctc cac gcc ctc ctg cat act	480
Val Ala Gly Leu Trp Leu Val Thr Tyr Leu His Ala Leu Leu His Thr	
145 150 155 160	
gtc cta ata gca cag ctg tcc ttc tgt gcc tcc aat atc atc cat cat	528
Val Leu Ile Ala Gln Leu Ser Phe Cys Ala Ser Asn Ile Ile His His	
165 170 175	
ttc ttc tgt gat ctc aat cct ctc ctg cag ctc tct tgc tct gac gtc	576
Phe Phe Cys Asp Leu Asn Pro Leu Leu Gln Leu Ser Cys Ser Asp Val	
180 185 190	
tcc ttc aat gta atg atc att ttt gca gta gga ggt cta ttg gct ctc	624
Ser Phe Asn Val Met Ile Ile Phe Ala Val Gly Gly Leu Leu Ala Leu	
195 200 205	
acg ccc ctt gtc tgt atc ctc gta tct tat gga ctt atc ttc tcc act	672
Thr Pro Leu Val Cys Ile Leu Val Ser Tyr Gly Leu Ile Phe Ser Thr	
210 215 220	

gtt ctg aag atc acc tct act cag ggc aag cag aga gct gtt tcc acc 720
 Val Leu Lys Ile Thr Ser Thr Gln Gly Lys Gln Arg Ala Val Ser Thr
 225 230 235 240
 tgc agc tgc cac ctg tca gtg gtg gtg ttg ttt tac ggc aca gcc atc 768
 Cys Ser Cys His Leu Ser Val Val Val Leu Phe Tyr Gly Thr Ala Ile
 245 250 255
 gcc gtc tat ttc agc cct tca tcc ccc cat atg cct gag agc gac act 816
 Ala Val Tyr Phe Ser Pro Ser Ser Pro His Met Pro Glu Ser Asp Thr
 260 265 270
 ctg tca acc atc atg tat tca atg gtg gct ccg atg ctg aat cct ttc 864
 Leu Ser Thr Ile Met Tyr Ser Met Val Ala Pro Met Leu Asn Pro Phe
 275 280 285
 atc tat acc cta agg aac agg gat atg aag agg gga ctt cag aaa atg 912
 Ile Tyr Thr Leu Arg Asn Arg Asp Met Lys Arg Gly Leu Gln Lys Met
 290 295 300
 ctt ctc aag tgc aca gtc ttt cag cag caa taa 945
 Leu Leu Lys Cys Thr Val Phe Gln Gln Gln
 305 310

<210> 50

<211> 314

<212> PRT

<213> Homo Sapiens

<400> 50

Met Glu Lys Arg Asn Leu Thr Val Val Arg Glu Phe Val Leu Leu Gly
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 Leu Pro Ser Ser Ala Glu Gln Gln His Leu Leu Ser Val Leu Phe Leu
 20 25 30
 Cys Met Tyr Leu Ala Thr Thr Leu Gly Asn Met Leu Ile Ile Ala Thr
 35 40 45
 Ile Gly Phe Asp Ser His Leu His Ser Pro Met Tyr Phe Phe Leu Ser
 50 55 60
 Asn Leu Ala Phe Val Asp Ile Cys Phe Thr Ser Thr Thr Val Pro Gln
 65 70 75 80
 Met Val Val Asn Ile Leu Thr Gly Thr Lys Thr Ile Ser Phe Ala Gly
 85 90 95
 Cys Leu Thr Gln Leu Phe Phe Phe Val Ser Phe Val Asn Met Asp Ser
 100 105 110
 Leu Leu Leu Cys Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His
 115 120 125

Pro Leu His Tyr Thr Ala Arg Met Asn Leu Cys Leu Cys Val Gln Leu
 130 135 140

Val Ala Gly Leu Trp Leu Val Thr Tyr Leu His Ala Leu Leu His Thr
 145 150 155 160

Val Leu Ile Ala Gln Leu Ser Phe Cys Ala Ser Asn Ile Ile His His
 165 170 175

Phe Phe Cys Asp Leu Asn Pro Leu Leu Gln Leu Ser Cys Ser Asp Val
 180 185 190

Ser Phe Asn Val Met Ile Ile Phe Ala Val Gly Gly Leu Leu Ala Leu
 195 200 205

Thr Pro Leu Val Cys Ile Leu Val Ser Tyr Gly Leu Ile Phe Ser Thr
 210 215 220

Val Leu Lys Ile Thr Ser Thr Gln Gly Lys Gln Arg Ala Val Ser Thr
 225 230 235 240

Cys Ser Cys His Leu Ser Val Val Val Leu Phe Tyr Gly Thr Ala Ile
 245 250 255

Ala Val Tyr Phe Ser Pro Ser Ser Pro His Met Pro Glu Ser Asp Thr
 260 265 270

Leu Ser Thr Ile Met Tyr Ser Met Val Ala Pro Met Leu Asn Pro Phe
 275 280 285

Ile Tyr Thr Leu Arg Asn Arg Asp Met Lys Arg Gly Leu Gln Lys Met
 290 295 300

Leu Leu Lys Cys Thr Val Phe Gln Gln Gln
 305 310

<210> 51

<211> 966

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(963)

<223>

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<400> 51
atg ccc ata ctt atg gct ata gga aac tgg aca gaa ata agt gaa ttt      48
Met Pro Ile Leu Met Ala Ile Gly Asn Trp Thr Glu Ile Ser Glu Phe
1          5          10          15

atc ctc atg agc ttc tct tcc cta cct act gaa ata cag tca ttg ctc      96
Ile Leu Met Ser Phe Ser Ser Leu Pro Thr Glu Ile Gln Ser Leu Leu
          20          25          30

ttc ctg aca ttt cta act atc tat ttg gtt act ctg aag gga aac agc      144
Phe Leu Thr Phe Leu Thr Ile Tyr Leu Val Thr Leu Lys Gly Asn Ser
          35          40          45

ctc atc att ctg gtt acc cta gct gac ccc atg cta cac agc ccc atg      192
Leu Ile Ile Leu Val Thr Leu Ala Asp Pro Met Leu His Ser Pro Met
          50          55          60

tac ttc ttc ctc aga aac tta tct ttc ctg gag att ggc ttc aac cta      240
Tyr Phe Phe Leu Arg Asn Leu Ser Phe Leu Glu Ile Gly Phe Asn Leu
65          70          75          80

gtc att gtg ccc aaa atg ctg ggg acc ctg ctt gcc cag gac aca acc      288
Val Ile Val Pro Lys Met Leu Gly Thr Leu Leu Ala Gln Asp Thr Thr
          85          90          95

atc tcc ttc ctt ggc tgt gcc act cag atg tat ttc ttc ttc ttc ttt      336
Ile Ser Phe Leu Gly Cys Ala Thr Gln Met Tyr Phe Phe Phe Phe Phe
          100          105          110

ggg gta gct gaa tgc ttc ctc ctg gct acc atg gca tat gac cgc tat      384
Gly Val Ala Glu Cys Phe Leu Leu Ala Thr Met Ala Tyr Asp Arg Tyr
          115          120          125

gtg gcc atc tgc agt ccc ttg cac tac cca gtc atc atg aac caa agg      432
Val Ala Ile Cys Ser Pro Leu His Tyr Pro Val Ile Met Asn Gln Arg
          130          135          140

aca cgg gcc aaa ctg gct gct gct tcc tgg ttc cca ggc ttt cct gta      480
Thr Arg Ala Lys Leu Ala Ala Ala Ser Trp Phe Pro Gly Phe Pro Val
145          150          155          160

gct act gtg cag acc aca tgg ctc ttc agt ttt cca ttc tgt ggc acc      528
Ala Thr Val Gln Thr Thr Trp Leu Phe Ser Phe Pro Phe Cys Gly Thr
          165          170          175

aac aag gtg aac cac ttc ttc tgt gac agc ccg cct gtg ctg aag ctg      576
Asn Lys Val Asn His Phe Phe Cys Asp Ser Pro Pro Val Leu Lys Leu
          180          185          190

gtc tgt gca gac aca gca ctg ttt gag atc tac gcc atc gtc gga acc      624
Val Cys Ala Asp Thr Ala Leu Phe Glu Ile Tyr Ala Ile Val Gly Thr
          195          200          205

att ctg gtg gtc atg atc ccc tgc ttg ctg atc ttg tgt tcc tat act      672
Ile Leu Val Val Met Ile Pro Cys Leu Leu Ile Leu Cys Ser Tyr Thr
          210          215          220

cgc att gct gct gct atc ctc aag atc cca tca gct aaa ggg aag cat      720
Arg Ile Ala Ala Ala Ile Leu Lys Ile Pro Ser Ala Lys Gly Lys His
225          230          235          240

aaa gcc ttc tct acg tgc tcc tca cac ctc ctt gtt gtc tct ctt ttc      768
Lys Ala Phe Ser Thr Cys Ser Ser His Leu Leu Val Val Ser Leu Phe
          245          250          255

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tat ata tct tct agc ctc acc tac ttc tgg cct aaa tca aat aat tct 816
Tyr Ile Ser Ser Ser Leu Thr Tyr Phe Trp Pro Lys Ser Asn Asn Ser
260 265 270

cct gag agc aag aag ttg tta tca tta tcc tac act gtt gtg act ccc 864
Pro Glu Ser Lys Lys Leu Leu Ser Leu Ser Tyr Thr Val Val Thr Pro
275 280 285

atg ttg aac ccc att atc tac agc ttg aga aat agc gag gtg aag aat 912
Met Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Ser Glu Val Lys Asn
290 295 300

gcc ctc agc agg acc ttc cac aag gtc cta gcc ctc aga aac tgt atc 960
Ala Leu Ser Arg Thr Phe His Lys Val Leu Ala Leu Arg Asn Cys Ile
305 310 315 320

cca tag 966
Pro

<210> 52
<211> 321

<212> PRT

<213> Homo Sapiens

<400> 52

Met Pro Ile Leu Met Ala Ile Gly Asn Trp Thr Glu Ile Ser Glu Phe
1 5 10 15

Ile Leu Met Ser Phe Ser Ser Leu Pro Thr Glu Ile Gln Ser Leu Leu
20 25 30

Phe Leu Thr Phe Leu Thr Ile Tyr Leu Val Thr Leu Lys Gly Asn Ser
35 40 45

Leu Ile Ile Leu Val Thr Leu Ala Asp Pro Met Leu His Ser Pro Met
50 55 60

Tyr Phe Phe Leu Arg Asn Leu Ser Phe Leu Glu Ile Gly Phe Asn Leu
65 70 75 80

Val Ile Val Pro Lys Met Leu Gly Thr Leu Leu Ala Gln Asp Thr Thr
85 90 95

Ile Ser Phe Leu Gly Cys Ala Thr Gln Met Tyr Phe Phe Phe Phe Phe
100 105 110

Gly Val Ala Glu Cys Phe Leu Leu Ala Thr Met Ala Tyr Asp Arg Tyr
115 120 125

Val Ala Ile Cys Ser Pro Leu His Tyr Pro Val Ile Met Asn Gln Arg
130 135 140

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

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

Asn Lys Val Asn His Phe Phe Cys Asp Ser Pro Pro Val Leu Lys Leu
 180 185 190

Val Cys Ala Asp Thr Ala Leu Phe Glu Ile Tyr Ala Ile Val Gly Thr
 195 200 205

Ile Leu Val Val Met Ile Pro Cys Leu Leu Ile Leu Cys Ser Tyr Thr
 210 215 220

Arg Ile Ala Ala Ala Ile Leu Lys Ile Pro Ser Ala Lys Gly Lys His
 225 230 235 240

Lys Ala Phe Ser Thr Cys Ser Ser His Leu Leu Val Val Ser Leu Phe
 245 250 255

Tyr Ile Ser Ser Ser Leu Thr Tyr Phe Trp Pro Lys Ser Asn Asn Ser
 260 265 270

Pro Glu Ser Lys Lys Leu Leu Ser Leu Ser Tyr Thr Val Val Thr Pro
 275 280 285

Met Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Ser Glu Val Lys Asn
 290 295 300

Ala Leu Ser Arg Thr Phe His Lys Val Leu Ala Leu Arg Asn Cys Ile
 305 310 315 320

Pro

<210> 53

<211> 933

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (930)

<223>

<400> 53																
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Gln	Thr	Met	Arg	Gln	Ile	Asn	Gln	Thr	Gln	Val	Thr	Glu	Phe	Leu	Leu	
1				5					10					15		
ctg	gga	ctc	tct	gat	ggg	cca	cac	acc	gag	cag	ctg	cta	ttt	atc	gta	96
Leu	Gly	Leu	Ser	Asp	Gly	Pro	His	Thr	Glu	Gln	Leu	Leu	Phe	Ile	Val	
			20					25					30			
tta	ttg	ggt	gtc	tac	ctg	gtc	act	gtg	ctt	gga	aat	ctg	ctt	cta	atc	144
Leu	Leu	Gly	Val	Tyr	Leu	Val	Thr	Val	Leu	Gly	Asn	Leu	Leu	Leu	Ile	
		35					40					45				
tcc	ctt	gtt	cat	gtt	gac	tcc	caa	ctt	cac	aca	ccc	atg	tat	ttt	ttt	192
Ser	Leu	Val	His	Val	Asp	Ser	Gln	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	
	50					55					60					
ctc	tgc	aac	ttg	tct	ctg	gct	gac	ctc	tgt	ttc	tct	acc	aac	ata	gtt	240
Leu	Cys	Asn	Leu	Ser	Leu	Ala	Asp	Leu	Cys	Phe	Ser	Thr	Asn	Ile	Val	
65					70					75					80	
cct	cag	gca	cta	gtc	cac	ctg	ctt	tcc	aga	aag	aag	gtc	att	gca	ttc	288
Pro	Gln	Ala	Leu	Val	His	Leu	Leu	Ser	Arg	Lys	Lys	Val	Ile	Ala	Phe	
				85					90					95		
aca	ctt	tgc	gca	gct	cga	ctt	ctc	ttt	ttc	ctc	att	ttt	ggg	tgt	acc	336
Thr	Leu	Cys	Ala	Ala	Arg	Leu	Leu	Phe	Phe	Leu	Ile	Phe	Gly	Cys	Thr	
			100					105					110			
cag	tgc	gcc	ctt	ctt	gca	gtg	atg	tcc	tat	gat	cgc	tat	gtt	gca	atc	384
Gln	Cys	Ala	Leu	Leu	Ala	Val	Met	Ser	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	
		115					120					125				
tgc	aat	cct	ctg	cgt	tac	cct	aac	atc	atg	acc	tgg	aaa	gtg	tgt	gtc	432
Cys	Asn	Pro	Leu	Arg	Tyr	Pro	Asn	Ile	Met	Thr	Trp	Lys	Val	Cys	Val	
	130					135					140					
cag	ctg	gca	aca	gga	tca	tgg	acc	agt	ggc	att	ctg	gtg	tct	gtg	gta	480
Gln	Leu	Ala	Thr	Gly	Ser	Trp	Thr	Ser	Gly	Ile	Leu	Val	Ser	Val	Val	
145					150					155					160	
gac	acc	acc	ttc	ata	ctg	agg	cta	ccc	tac	cga	ggc	agt	aac	agc	att	528
Asp	Thr	Thr	Phe	Ile	Leu	Arg	Leu	Pro	Tyr	Arg	Gly	Ser	Asn	Ser	Ile	
				165					170					175		
gct	cat	ttc	ttt	tgt	gag	gcc	cct	gca	cta	ttg	atc	tta	gca	tcc	aca	576
Ala	His	Phe	Phe	Cys	Glu	Ala	Pro	Ala	Leu	Leu	Ile	Leu	Ala	Ser	Thr	
			180					185					190			
gac	acc	cat	gca	tca	gag	atg	gcc	att	ttt	ctt	atg	ggg	gtt	gtg	att	624
Asp	Thr	His	Ala	Ser	Glu	Met	Ala	Ile	P							

gca att atc act tac atg aca ccc aag tct tcc aaa cag cag gaa aaa 816
 Ala Ile Ile Thr Tyr Met Thr Pro Lys Ser Ser Lys Gln Gln Glu Lys
 260 265 270

tcg gtg tct gtt ttc tat gca ata gtg act ccc atg ctt aat ccc ctc 864
 Ser Val Ser Val Phe Tyr Ala Ile Val Thr Pro Met Leu Asn Pro Leu
 275 280 285

atc tat agc ctg aga aac aag gat gtg aag gca gct ctg agg aaa gta 912
 Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Ala Ala Leu Arg Lys Val
 290 295 300

gcc aca agg aat ttc cca tga 933
 Ala Thr Arg Asn Phe Pro
 305 310

<210> 54

<211> 310

<212> PRT

<213> Homo Sapiens

<400> 54

Gln Thr Met Arg Gln Ile Asn Gln Thr Gln Val Thr Glu Phe Leu Leu
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 20 25 30

Leu Leu Gly Val Tyr Leu Val Thr Val Leu Gly Asn Leu Leu Leu Ile
 35 40 45

Ser Leu Val His Val Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe
 50 55 60

Leu Cys Asn Leu Ser Leu Ala Asp Leu Cys Phe Ser Thr Asn Ile Val
 65 70 75 80

Pro Gln Ala Leu Val His Leu Leu Ser Arg Lys Lys Val Ile Ala Phe
 85 90 95

Thr Leu Cys Ala Ala Arg Leu Leu Phe Phe Leu Ile Phe Gly Cys Thr
 100 105 110

Gln Cys Ala Leu Leu Ala Val Met Ser Tyr Asp Arg Tyr Val Ala Ile
 115 120 125

Cys Asn Pro Leu Arg Tyr Pro Asn Ile Met Thr Trp Lys Val Cys Val
 130 135 140

Gln Leu Ala Thr Gly Ser Trp Thr Ser Gly Ile Leu Val Ser Val Val

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145              150              155              160
Asp Thr Thr Phe Ile Leu Arg Leu Pro Tyr Arg Gly Ser Asn Ser Ile
              165              170              175

Ala His Phe Phe Cys Glu Ala Pro Ala Leu Leu Ile Leu Ala Ser Thr
              180              185              190

Asp Thr His Ala Ser Glu Met Ala Ile Phe Leu Met Gly Val Val Ile
              195              200              205

Leu Leu Ile Pro Val Phe Leu Ile Leu Val Ser Tyr Gly Arg Ile Ile
              210              215              220

Val Thr Val Val Lys Met Lys Ser Thr Val Gly Ser Leu Lys Ala Phe
225              230              235              240

Ser Thr Cys Gly Ser His Leu Met Val Val Ile Leu Phe Tyr Gly Ser
              245              250              255

Ala Ile Ile Thr Tyr Met Thr Pro Lys Ser Ser Lys Gln Gln Glu Lys
              260              265              270

Ser Val Ser Val Phe Tyr Ala Ile Val Thr Pro Met Leu Asn Pro Leu
              275              280              285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Ala Ala Leu Arg Lys Val
              290              295              300

Ala Thr Arg Asn Phe Pro
305              310

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<210> 55
<211> 897

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (894)

<223>

<400> 55

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Met Arg Asn His Thr Met Val Thr Glu Phe Ile Leu Leu Gly Ile Pro
1              5              10              15

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48

gag aca gag ggc cta gag aca gcc ctt tta ttc ctg ttc tcc tca ttt	96
Glu Thr Glu Gly Leu Glu Thr Ala Leu Leu Phe Leu Phe Ser Ser Phe	
20 25 30	
tat tta tgc acc ctc ttg gga aac gtg ctt atc ctt aca gct atc atc	144
Tyr Leu Cys Thr Leu Leu Gly Asn Val Leu Ile Leu Thr Ala Ile Ile	
35 40 45	
tcc tcc act cga ctt cac act cct atg tat ttt ttc ttg gga aac ctc	192
Ser Ser Thr Arg Leu His Thr Pro Met Tyr Phe Phe Leu Gly Asn Leu	
50 55 60	
tcc atc ttt gac ctg ggt ttc tct tca acg act gtt ccc aag atg ttg	240
Ser Ile Phe Asp Leu Gly Phe Ser Ser Thr Thr Val Pro Lys Met Leu	
65 70 75 80	
ttc tac ctt tcg ggg aac agc cat gct atc tcg tat gca ggc tgc gtg	288
Phe Tyr Leu Ser Gly Asn Ser His Ala Ile Ser Tyr Ala Gly Cys Val	
85 90 95	
tcc cag ctt ttc ttc tac cat ttc cta ggc tgt act gag tgt ttc ctc	336
Ser Gln Leu Phe Phe Tyr His Phe Leu Gly Cys Thr Glu Cys Phe Leu	
100 105 110	
tac aca gtg atg gcc tgt gac cgc ttt gtt gcc ata tgt ttt cct ttg	384
Tyr Thr Val Met Ala Cys Asp Arg Phe Val Ala Ile Cys Phe Pro Leu	
115 120 125	
aga tac acg gtc atc atg aac cac agg gtg tgc ttt atg ttg gcc acg	432
Arg Tyr Thr Val Ile Met Asn His Arg Val Cys Phe Met Leu Ala Thr	
130 135 140	
ggg acc tgg atg att ggc tgt gtc cat gcc atg atc cta act ccc ctc	480
Gly Thr Trp Met Ile Gly Cys Val His Ala Met Ile Leu Thr Pro Leu	
145 150 155 160	
acc ttc cag tta cct tac tgt ggc cct aac aag gtg ggc tat tac ttc	528
Thr Phe Gln Leu Pro Tyr Cys Gly Pro Asn Lys Val Gly Tyr Tyr Phe	
165 170 175	
tgt gat att cct gca gtg tta cct cta gcc tgt aag gac aca tcc tta	576
Cys Asp Ile Pro Ala Val Leu Pro Leu Ala Cys Lys Asp Thr Ser Leu	
180 185 190	
gcc cag agg gta ggt ttt aca aat gtt ggt ctt ttg tct ctc att tgc	624
Ala Gln Arg Val Gly Phe Thr Asn Val Gly Leu Leu Ser Leu Ile Cys	
195 200 205	
ttt ttt ctc atc ctt gtt tcc tat act tgc att ggg att tcc ata tca	672
Phe Phe Leu Ile Leu Val Ser Tyr Thr Cys Ile Gly Ile Ser Ile Ser	
210 215 220	
aaa atc cgc tca gca gag ggc agg cag cgg gcc ttc tcc acc tgc agc	720
Lys Ile Arg Ser Ala Glu Gly Arg Gln Arg Ala Phe Ser Thr Cys Ser	
225 230 235 240	
gct cac ctc act gca atc ctt tgt gct tat ggg cca gtc atc gtt atc	768
Ala His Leu Thr Ala Ile Leu Cys Ala Tyr Gly Pro Val Ile Val Ile	
245 250 255	
tat cta caa ccc aat ccc agt gcc ttg ctt ggt tcc ata att cag ata	816
Tyr Leu Gln Pro Asn Pro Ser Ala Leu Leu Gly Ser Ile Ile Gln Ile	
260 265 270	
ttg aat aat ctg gta acc cca atg ttg aat cca cta atc tat agc ctt	864
Leu Asn Asn Leu Val Thr Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu	
275 280 285	

agg aat aag gat gta aaa tca gat cag ccc tga
 Arg Asn Lys Asp Val Lys Ser Asp Gln Pro
 290 295

897

<210> 56

<211> 298

<212> PRT

<213> Homo Sapiens

<400> 56

Met Arg Asn His Thr Met Val Thr Glu Phe Ile Leu Leu Gly Ile Pro
 1 5 10 15

Glu Thr Glu Gly Leu Glu Thr Ala Leu Leu Phe Leu Phe Ser Ser Phe
 20 25 30

Tyr Leu Cys Thr Leu Leu Gly Asn Val Leu Ile Leu Thr Ala Ile Ile
 35 40 45

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

Ser Ile Phe Asp Leu Gly Phe Ser Ser Thr Thr Val Pro Lys Met Leu
 65 70 75 80

Phe Tyr Leu Ser Gly Asn Ser His Ala Ile Ser Tyr Ala Gly Cys Val
 85 90 95

Ser Gln Leu Phe Phe Tyr His Phe Leu Gly Cys Thr Glu Cys Phe Leu
 100 105 110

Tyr Thr Val Met Ala Cys Asp Arg Phe Val Ala Ile Cys Phe Pro Leu
 115 120 125

Arg Tyr Thr Val Ile Met Asn His Arg Val Cys Phe Met Leu Ala Thr
 130 135 140

Gly Thr Trp Met Ile Gly Cys Val His Ala Met Ile Leu Thr Pro Leu
 145 150 155 160

Thr Phe Gln Leu Pro Tyr Cys Gly Pro Asn Lys Val Gly Tyr Tyr Phe
 165 170 175

Cys Asp Ile Pro Ala Val Leu Pro Leu Ala Cys Lys Asp Thr Ser Leu
 180 185 190

Ala Gln Arg Val Gly Phe Thr Asn Val Gly Leu Leu Ser Leu Ile Cys

195					200					205					
Phe	Phe	Leu	Ile	Leu	Val	Ser	Tyr	Thr	Cys	Ile	Gly	Ile	Ser	Ile	Ser
210						215					220				
Lys	Ile	Arg	Ser	Ala	Glu	Gly	Arg	Gln	Arg	Ala	Phe	Ser	Thr	Cys	Ser
225					230					235					240
Ala	His	Leu	Thr	Ala	Ile	Leu	Cys	Ala	Tyr	Gly	Pro	Val	Ile	Val	Ile
				245					250					255	
Tyr	Leu	Gln	Pro	Asn	Pro	Ser	Ala	Leu	Leu	Gly	Ser	Ile	Ile	Gln	Ile
			260					265					270		
Leu	Asn	Asn	Leu	Val	Thr	Pro	Met	Leu	Asn	Pro	Leu	Ile	Tyr	Ser	Leu
		275					280					285			
Arg	Asn	Lys	Asp	Val	Lys	Ser	Asp	Gln	Pro						
290						295									

<210> 57

<211> 969

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(966)

<223>

<400> 57	
atg aat tcc ctg aag gac ggg aat cac acc gct ctg acg ggg ttc atc	48
Met Asn Ser Leu Lys Asp Gly Asn His Thr Ala Leu Thr Gly Phe Ile	
1 5 10 15	
cta ttg ggc tta aca gat gat cca atc ctt cga gtc atc ctc ttc atg	96
Leu Leu Gly Leu Thr Asp Asp Pro Ile Leu Arg Val Ile Leu Phe Met	
20 25 30	
atc atc cta tct ggt aat ctc agc ata att att ctt atc aga att tct	144
Ile Ile Leu Ser Gly Asn Leu Ser Ile Ile Ile Leu Ile Arg Ile Ser	
35 40 45	
tct cag ctc cat cat cct atg tat ttc ttt ctg agc cac ttg gct ttt	192
Ser Gln Leu His His Pro Met Tyr Phe Phe Leu Ser His Leu Ala Phe	
50 55 60	
gct gac atg gcc tat tca tct tct gtc aca ccc aac atg ctt gta aac	240
Ala Asp Met Ala Tyr Ser Ser Ser Val Thr Pro Asn Met Leu Val Asn	
65 70 75 80	

ttc ctg gtg gag aga aat aca gtc tcc tac ctt gga tgt gcc atc cag	288
Phe Leu Val Glu Arg Asn Thr Val Ser Tyr Leu Gly Cys Ala Ile Gln	
85 90 95	
ctt ggt tca gcg gct ttc ttt gca aca gtc gaa tgc gtc ctt ctg gct	336
Leu Gly Ser Ala Ala Phe Phe Ala Thr Val Glu Cys Val Leu Leu Ala	
100 105 110	
gcc atg gcc tat gac cgc ttt gtg gca att tgc agt cca ctg ctt tat	384
Ala Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Ser Pro Leu Leu Tyr	
115 120 125	
tca acc aaa atg tcc aca caa gtc agt gtc cag cta ctc tta gta gtt	432
Ser Thr Lys Met Ser Thr Gln Val Ser Val Gln Leu Leu Leu Val Val	
130 135 140	
tac ata gct ggt ttt ctc att gct gtc tcc tat act act tcc ttc tat	480
Tyr Ile Ala Gly Phe Leu Ile Ala Val Ser Tyr Thr Thr Ser Phe Tyr	
145 150 155 160	
ttt tta ctc ttc tgt gga cca aat caa gtc aat cat ttt ttc tgt gat	528
Phe Leu Leu Phe Cys Gly Pro Asn Gln Val Asn His Phe Phe Cys Asp	
165 170 175	
ttc gct ccc tta ctt gaa ctc tcc tgt tct gat atc agt gtc tcc aca	576
Phe Ala Pro Leu Leu Glu Leu Ser Cys Ser Asp Ile Ser Val Ser Thr	
180 185 190	
gtt gtt ctc tca ttt tct tct gga tcc atc att gtg gtc act gtg tgt	624
Val Val Leu Ser Phe Ser Ser Gly Ser Ile Ile Val Val Thr Val Cys	
195 200 205	
gtc ata gcc gtc tgc tac atc tat atc ctc atc acc atc ctg aag atg	672
Val Ile Ala Val Cys Tyr Ile Tyr Ile Leu Ile Thr Ile Leu Lys Met	
210 215 220	
cgc tcc act gag ggg cac cac aag gcc ttc tcc acc tgc act tcc cac	720
Arg Ser Thr Glu Gly His His Lys Ala Phe Ser Thr Cys Thr Ser His	
225 230 235 240	
ctc act gtg gtt acc ctg ttc tat ggg acc att acc ttc att tat gtg	768
Leu Thr Val Val Thr Leu Phe Tyr Gly Thr Ile Thr Phe Ile Tyr Val	
245 250 255	
atg ccc aat ttt agc tac tca act gac cag aac aag gtg gtg tct gtg	816
Met Pro Asn Phe Ser Tyr Ser Thr Asp Gln Asn Lys Val Val Ser Val	
260 265 270	
ttg tac aca gtg gtg att ccc atg ttg aac ccc ctg atc tac agc ctc	864
Leu Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu	
275 280 285	
agg aac aag gag att aag ggg gct ctg aag aga gag ctt gtt aga aaa	912
Arg Asn Lys Glu Ile Lys Gly Ala Leu Lys Arg Glu Leu Val Arg Lys	
290 295 300	
ata ctt tct cat gat gct tgt tat ttt agt aga act tca aat aat gat	960
Ile Leu Ser His Asp Ala Cys Tyr Phe Ser Arg Thr Ser Asn Asn Asp	
305 310 315 320	
att aca tag	969
Ile Thr	

<211> 322

<212> PRT

<213> Homo Sapiens

<400> 58

Met Asn Ser Leu Lys Asp Gly Asn His Thr Ala Leu Thr Gly Phe Ile
 1 5 10 15

Leu Leu Gly Leu Thr Asp Asp Pro Ile Leu Arg Val Ile Leu Phe Met
 20 25 30

Ile Ile Leu Ser Gly Asn Leu Ser Ile Ile Ile Leu Ile Arg Ile Ser
 35 40 45

Ser Gln Leu His His Pro Met Tyr Phe Phe Leu Ser His Leu Ala Phe
 50 55 60

Ala Asp Met Ala Tyr Ser Ser Ser Val Thr Pro Asn Met Leu Val Asn
 65 70 75 80

Phe Leu Val Glu Arg Asn Thr Val Ser Tyr Leu Gly Cys Ala Ile Gln
 85 90 95

Leu Gly Ser Ala Ala Phe Phe Ala Thr Val Glu Cys Val Leu Leu Ala
 100 105 110

Ala Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Ser Pro Leu Leu Tyr
 115 120 125

Ser Thr Lys Met Ser Thr Gln Val Ser Val Gln Leu Leu Leu Val Val
 130 135 140

Tyr Ile Ala Gly Phe Leu Ile Ala Val Ser Tyr Thr Thr Ser Phe Tyr
 145 150 155 160

Phe Leu Leu Phe Cys Gly Pro Asn Gln Val Asn His Phe Phe Cys Asp
 165 170 175

Phe Ala Pro Leu Leu Glu Leu Ser Cys Ser Asp Ile Ser Val Ser Thr
 180 185 190

Val Val Leu Ser Phe Ser Ser Gly Ser Ile Ile Val Val Thr Val Cys
 195 200 205

Val Ile Ala Val Cys Tyr Ile Tyr Ile Leu Ile Thr Ile Leu Lys Met
 210 215 220

Arg Ser Thr Glu Gly His His Lys Ala Phe Ser Thr Cys Thr Ser His
 225 230 235 240

Leu Thr Val Val Thr Leu Phe Tyr Gly Thr Ile Thr Phe Ile Tyr Val
 245 250 255

Met Pro Asn Phe Ser Tyr Ser Thr Asp Gln Asn Lys Val Val Ser Val
 260 265 270

Leu Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu
 275 280 285

Arg Asn Lys Glu Ile Lys Gly Ala Leu Lys Arg Glu Leu Val Arg Lys
 290 295 300

Ile Leu Ser His Asp Ala Cys Tyr Phe Ser Arg Thr Ser Asn Asn Asp
 305 310 315 320

Ile Thr

<210> 59

<211> 930

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(927)

<223>

<400> 59

atg gaa gga ata aat aaa act gca aag atg cag ttt ttc ttt cgt cca 48
 Met Glu Gly Ile Asn Lys Thr Ala Lys Met Gln Phe Phe Phe Arg Pro
 1 5 10 15

ttc tca cct gac cct gag gtc cag atg ctg att ttt gtg gtc ttc ctg 96
 Phe Ser Pro Asp Pro Glu Val Gln Met Leu Ile Phe Val Val Phe Leu
 20 25 30

atg atg tat ctg acc agc ctc ggt gga aat gct aca att gca gtc att 144
 Met Met Tyr Leu Thr Ser Leu Gly Gly Asn Ala Thr Ile Ala Val Ile
 35 40 45

gtt cag atc aat cat tcc ctc cac acc ccc atg tac ttt ttc ctg gct 192
 Val Gln Ile Asn His Ser Leu His Thr Pro Met Tyr Phe Phe Leu Ala
 50 55 60

aat ctg gca gtt cta gaa atc ttc tat aca tct tcc atc acc cca ttg 240
 Asn Leu Ala Val Leu Glu Ile Phe Tyr Thr Ser Ser Ile Thr Pro Leu
 65 70 75 80

gcc ttg gca aac ctc ctt tca atg ggc aaa act cct gtt tcc atc acg 288

Ala	Leu	Ala	Asn	Leu	Leu	Ser	Met	Gly	Lys	Thr	Pro	Val	Ser	Ile	Thr	
			85						90				.	95		
gga	tgt	ggc	acc	cag	atg	ttt	ttc	ttt	gtc	ttc	ttg	ggg	ggg	gct	gat	336
Gly	Cys	Gly	Thr	Gln	Met	Phe	Phe	Phe	Val	Phe	Leu	Gly	Gly	Ala	Asp	
			100					105					110			
tgt	gtc	ctg	ctg	gta	gtc	atg	gct	tat	gac	cag	ttt	ata	gcg	atc	tgt	384
Cys	Val	Leu	Leu	Val	Val	Met	Ala	Tyr	Asp	Gln	Phe	Ile	Ala	Ile	Cys	
			115				120					125				
cac	cct	ctg	cga	tac	agg	ctc	atc	atg	agc	tgg	tcc	ttg	tgt	gtg	gag	432
His	Pro	Leu	Arg	Tyr	Arg	Leu	Ile	Met	Ser	Trp	Ser	Leu	Cys	Val	Glu	
	130					135					140					
ctg	ctg	gta	ggc	tcc	ttg	gtg	ctg	ggg	ttc	ctg	ttg	tca	ctg	cca	ctc	480
Leu	Leu	Val	Gly	Ser	Leu	Val	Leu	Gly	Phe	Leu	Leu	Ser	Leu	Pro	Leu	
145					150				155						160	
acc	att	tta	atc	ttc	cat	ctc	cca	ttc	tgc	cac	aat	gat	gag	atc	tac	528
Thr	Ile	Leu	Ile	Phe	His	Leu	Pro	Phe	Cys	His	Asn	Asp	Glu	Ile	Tyr	
				165					170					175		
cac	ttc	tac	tgt	gac	atg	cct	gca	gtc	atg	cgc	ctg	gct	tgt	gca	gac	576
His	Phe	Tyr	Cys	Asp	Met	Pro	Ala	Val	Met	Arg	Leu	Ala	Cys	Ala	Asp	
			180					185					190			
aca	cgc	gtt	cac	aag	act	gct	ctg	tat	atc	atc	agc	ttc	atc	gtc	ctt	624
Thr	Arg	Val	His	Lys	Thr	Ala	Leu	Tyr	Ile	Ile	Ser	Phe	Ile	Val	Leu	
		195					200					205	.			
agc	atc	ccc	ctc	tca	ttg	atc	tcc	atc	tcc	tat	gtc	ttc	atc	gtg	gta	672
Ser	Ile	Pro	Leu	Ser	Leu	Ile	Ser	Ile	Ser	Tyr	Val	Phe	Ile	Val	Val	
	210					215					220					
gcc	att	tta	cgg	atc	cgg	tca	gca	gaa	ggg	cgc	cag	caa	gcc	tac	tct	720
Ala	Ile	Leu	Arg	Ile	Arg	Ser	Ala	Glu	Gly	Arg	Gln	Gln	Ala	Tyr	Ser	
225					230				235						240	
acc	tgc	tct	tct	cac	atc	tta	gtg	gtc	ctc	ctg	cag	tat	ggc	tgc	acc	768
Thr	Cys	Ser	Ser	His	Ile	Leu	Val	Val	Leu	Leu	Gln	Tyr	Gly	Cys	Thr	
				245					250					255		
agc	ttt	ata	tac	ttg	tcc	ccc	agt	tcc	agc	tac	tct	cct	gag	atg	ggc	816
Ser	Phe	Ile	Tyr	Leu	Ser	Pro	Ser	Ser	Ser	Tyr	Ser	Pro	Glu	Met	Gly	
			260					265					270			
cgg	gtg	gta	tct	gtg	gcc	tac	aca	ttt	atc	act	ccc	att	tta	aac	ccc	864
Arg	Val	Val	Ser	Val	Ala	Tyr	Thr	Phe	Ile	Thr	Pro	Ile	Leu	Asn	Pro	
			275				280					285				
ttg	atc	tat	agt	ttg	agg	aac	aag	gaa	ctg	aaa	gat	gcc	cta	agg	aaa	912
Leu	Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Glu	Leu	Lys	Asp	Ala	Leu	Arg	Lys	
	290					295										
gca	ttg	aga	aaa	ttc	tag											930
Ala	Leu	Arg	Lys	Phe												
305					310											

<210> 60

<211> 309

<212> PRT

<213> Homo Sapiens

<400> 60

Met Glu Gly Ile Asn Lys Thr Ala Lys Met Gln Phe Phe Phe Arg Pro
 1 5 10 15

Phe Ser Pro Asp Pro Glu Val Gln Met Leu Ile Phe Val Val Phe Leu
 20 25 30

Met Met Tyr Leu Thr Ser Leu Gly Gly Asn Ala Thr Ile Ala Val Ile
 35 40 45

Val Gln Ile Asn His Ser Leu His Thr Pro Met Tyr Phe Phe Leu Ala
 50 55 60

Asn Leu Ala Val Leu Glu Ile Phe Tyr Thr Ser Ser Ile Thr Pro Leu
 65 70 75 80

Ala Leu Ala Asn Leu Leu Ser Met Gly Lys Thr Pro Val Ser Ile Thr
 85 90 95

Gly Cys Gly Thr Gln Met Phe Phe Phe Val Phe Leu Gly Gly Ala Asp
 100 105 110

Cys Val Leu Leu Val Val Met Ala Tyr Asp Gln Phe Ile Ala Ile Cys
 115 120 125

His Pro Leu Arg Tyr Arg Leu Ile Met Ser Trp Ser Leu Cys Val Glu
 130 135 140

Leu Leu Val Gly Ser Leu Val Leu Gly Phe Leu Leu Ser Leu Pro Leu
 145 150 155 160

Thr Ile Leu Ile Phe His Leu Pro Phe Cys His Asn Asp Glu Ile Tyr
 165 170 175

His Phe Tyr Cys Asp Met Pro Ala Val Met Arg Leu Ala Cys Ala Asp
 180 185 190

Thr Arg Val His Lys Thr Ala Leu Tyr Ile Ile Ser Phe Ile Val Leu
 195 200 205

Ser Ile Pro Leu Ser Leu Ile Ser Ile Ser Tyr Val Phe Ile Val Val
 210 215 220

Ala Ile Leu Arg Ile Arg Ser Ala Glu Gly Arg Gln Gln Ala Tyr Ser
 225 230 235 240

Thr Cys Ser Ser His Ile Leu Val Val Leu Leu Gln Tyr Gly Cys Thr
 245 250 255

Ser Phe Ile Tyr Leu Ser Pro Ser Ser Ser Tyr Ser Pro Glu Met Gly
 260 265 270

Arg Val Val Ser Val Ala Tyr Thr Phe Ile Thr Pro Ile Leu Asn Pro
 275 280 285

Leu Ile Tyr Ser Leu Arg Asn Lys Glu Leu Lys Asp Ala Leu Arg Lys
 290 295 300

Ala Leu Arg Lys Phe
 305

<210> 61

<211> 951

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (948)

<223>

<400> 61

atg gtt gaa gaa aat cat acc atg aaa aat gag ttt atc ctc aca gga 48
 Met Val Glu Glu Asn His Thr Met Lys Asn Glu Phe Ile Leu Thr Gly
 1 5 10 15

ttt aca gat cac cct gag ctg aag act ctg ctg ttt gtg gtg ttc ttt 96
 Phe Thr Asp His Pro Glu Leu Lys Thr Leu Leu Phe Val Val Phe Phe
 20 25 30

gcc atc tat ctg atc acc gtg gtg ggg aat att agt ttg gtg gca ctg 144
 Ala Ile Tyr Leu Ile Thr Val Val Gly Asn Ile Ser Leu Val Ala Leu
 35 40 45

ata ttt aca cac tgt cgg ctt cac aca cca atg tac atc ttt ctg gga 192
 Ile Phe Thr His Cys Arg Leu His Thr Pro Met Tyr Ile Phe Leu Gly
 50 55 60

aat ctg gct ctt gtg gat tct tgc tgt gcc tgt gct att acc ccc aaa 240
 Asn Leu Ala Leu Val Asp Ser Cys Cys Ala Cys Ala Ile Thr Pro Lys
 65 70 75 80

atg tta gag aac ttc ttt tct gag ggc aaa agg att tcc ctc tat gaa 288
 Met Leu Glu Asn Phe Phe Ser Glu Gly Lys Arg Ile Ser Leu Tyr Glu
 85 90 95

tgt gca gta cag ttt tat ttt ctt tgc act gtg gaa act gca gac tgc 336
 Cys Ala Val Gln Phe Tyr Phe Leu Cys Thr Val Glu Thr Ala Asp Cys
 100 105 110

ttt ctt ctg gca gca gtg gcc tat gac cgc tat gtg gcc atc tgc aac 384

Phe	Leu	Leu	Ala	Ala	Val	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Asn		
		115					120					125					
cca	ctg	cag	tac	cac	atc	atg	atg	tcc	aag	aaa	ctc	tgc	att	cag	atg	432	
Pro	Leu	Gln	Tyr	His	Ile	Met	Met	Ser	Lys	Lys	Leu	Cys	Ile	Gln	Met		
	130					135					140						
acc	aca	ggc	gcc	ttc	ata	gct	gga	aat	ctg	cat	tcc	atg	att	cat	gta	480	
Thr	Thr	Gly	Ala	Phe	Ile	Ala	Gly	Asn	Leu	His	Ser	Met	Ile	His	Val		
145					150				155						160		
ggg	ctt	gta	ttt	agg	tta	gtt	ttc	tgt	gga	ttg	aat	cac	atc	aac	cac	528	
Gly	Leu	Val	Phe	Arg	Leu	Val	Phe	Cys	Gly	Leu	Asn	His	Ile	Asn	His		
				165					170					175			
ttt	tac	tgt	gat	act	ctt	ccc	ttg	tat	aga	ctc	tcc	tgt	gtt	gac	cct	576	
Phe	Tyr	Cys	Asp	Thr	Leu	Pro	Leu	Tyr	Arg	Leu	Ser	Cys	Val	Asp	Pro		
			180					185					190				
ttc	atc	aat	gaa	ctg	gtt	cta	ttc	atc	ttc	tca	ggt	tca	gtt	caa	gtc	624	
Phe	Ile	Asn	Glu	Leu	Val	Leu	Phe	Ile	Phe	Ser	Gly	Ser	Val	Gln	Val		
		195					200					205					
ttt	acc	ata	ggt	agt	gtc	tta	ata	tct	tat	ctc	tat	att	ctt	ctt	act	672	
Phe	Thr	Ile	Gly	Ser	Val	Leu	Ile	Ser	Tyr	Leu	Tyr	Ile	Leu	Leu	Thr		
	210					215					220						
att	ttc	aga	atg	aaa	tcc	aag	gag	gga	agg	gcc	aaa	gcc	ttt	tct	act	720	
Ile	Phe	Arg	Met	Lys	Ser	Lys	Glu	Gly	Arg	Ala	Lys	Ala	Phe	Ser	Thr		
225					230					235					240		
tgt	gca	tcc	cac	ttt	tca	tca	gtt	tca	tta	ttc	tat	gga	tct	att	ttt	768	
Cys	Ala	Ser	His	Phe	Ser	Ser	Val	Ser	Leu	Phe	Tyr	Gly	Ser	Ile	Phe		
				245					250					255			
ttc	cta	tac	att	aga	cca	aat	ttg	ctt	gaa	gaa	gga	ggt	aat	gat	ata	816	
Phe	Leu	Tyr	Ile	Arg	Pro	Asn	Leu	Leu	Glu	Glu	Gly	Gly	Asn	Asp	Ile		
			260				265						270				
cca	gct	gct	att	tta	ttt	aca	ata	gta	gtt	ccc	tta	cta	aat	cct	ttc	864	
Pro	Ala	Ala	Ile	Leu	Phe	Thr	Ile	Val	Val	Pro	Leu	Leu	Asn	Pro	Phe		
		275					280					285					
att	tat	agt	ctg	aga	aac	aag	gaa	gta	ata	agt	gtc	tta	aga	aaa	att	912	
Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Glu	Val	Ile	Ser	Val	Leu	Arg	Lys	Ile		
	290					295					300						
ctg	ctg	aaa	ata	aaa	tct	caa	gga	agt	gtg	aac	aaa	tga				951	
Leu	Leu	Lys	Ile	Lys	Ser	Gln	Gly	Ser	Val	Asn	Lys						
305					310					315							

<210> 62

<211> 316

<212> PRT

<213> Homo Sapiens

<400> 62

Met	Val	Glu	Glu	Asn	His	Thr	Met	Lys	Asn	Glu	Phe	Ile	Leu	Thr	Gly
1				5					10					15	

Phe Thr Asp His Pro Glu Leu Lys Thr Leu Leu Phe Val Val Phe Phe
 20 25 30

Ala Ile Tyr Leu Ile Thr Val Val Gly Asn Ile Ser Leu Val Ala Leu
 35 40 45

Ile Phe Thr His Cys Arg Leu His Thr Pro Met Tyr Ile Phe Leu Gly
 50 55 60

Asn Leu Ala Leu Val Asp Ser Cys Cys Ala Cys Ala Ile Thr Pro Lys
 65 70 75 80

Met Leu Glu Asn Phe Phe Ser Glu Gly Lys Arg Ile Ser Leu Tyr Glu
 85 90 95

Cys Ala Val Gln Phe Tyr Phe Leu Cys Thr Val Glu Thr Ala Asp Cys
 100 105 110

Phe Leu Leu Ala Ala Val Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
 115 120 125

Pro Leu Gln Tyr His Ile Met Met Ser Lys Lys Leu Cys Ile Gln Met
 130 135 140

Thr Thr Gly Ala Phe Ile Ala Gly Asn Leu His Ser Met Ile His Val
 145 150 155 160

Gly Leu Val Phe Arg Leu Val Phe Cys Gly Leu Asn His Ile Asn His
 165 170 175

Phe Tyr Cys Asp Thr Leu Pro Leu Tyr Arg Leu Ser Cys Val Asp Pro
 180 185 190

Phe Ile Asn Glu Leu Val Leu Phe Ile Phe Ser Gly Ser Val Gln Val
 195 200 205

Phe Thr Ile Gly Ser Val Leu Ile Ser Tyr Leu Tyr Ile Leu Leu Thr
 210 215 220

Ile Phe Arg Met Lys Ser Lys Glu Gly Arg Ala Lys Ala Phe Ser Thr
 225 230 235 240

Cys Ala Ser His Phe Ser Ser Val Ser Leu Phe Tyr Gly Ser Ile Phe
 245 250 255

Phe Leu Tyr Ile Arg Pro Asn Leu Leu Glu Glu Gly Gly Asn Asp Ile
 260 265 270

Pro Ala Ala Ile Leu Phe Thr Ile Val Val Pro Leu Leu Asn Pro Phe
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Val Ile Ser Val Leu Arg Lys Ile
 290 295 300

Leu Leu Lys Ile Lys Ser Gln Gly Ser Val Asn Lys
 305 310 315

<210> 63

<211> 939

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(936)

<223>

<400> 63

atg gat cag aaa aat gga agt tct ttc act gga ttt atc cta ctg ggt 48
 Met Asp Gln Lys Asn Gly Ser Ser Phe Thr Gly Phe Ile Leu Leu Gly
 1 5 10 15

tct tct gac agg cct cag ctg gag cta gtc ctc ttt gtg gtt ctt ttg 96
 Phe Ser Asp Arg Pro Gln Leu Glu Leu Val Leu Phe Val Val Leu Leu
 20 25 30

atc ttc tat atc ttc act ttg ctg ggg aac aaa acc atc att gta tta 144
 Ile Phe Tyr Ile Phe Thr Leu Leu Gly Asn Lys Thr Ile Ile Val Leu
 35 40 45

tct cac ttg gac cca cat ctt cac act cct atg tat ttt ttc ttc tcc 192
 Ser His Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Phe Ser
 50 55 60

aac cta agc ttt ttg gat ctg tgt tac aca acc ggc att gtt cca cag 240
 Asn Leu Ser Phe Leu Asp Leu Cys Tyr Thr Thr Gly Ile Val Pro Gln
 65 70 75 80

ctc ctg gtt aat ctc agg gga gca gac aaa tca atc tcc tat ggt ggt 288
 Leu Leu Val Asn Leu Arg Gly Ala Asp Lys Ser Ile Ser Tyr Gly Gly
 85 90 95

tgt gta gtt cag ctg tac atc tct cta ggc ttg gga tct aca gaa tgc 336
 Cys Val Val Gln Leu Tyr Ile Ser Leu Gly Leu Gly Ser Thr Glu Cys
 100 105 110

gtt ctt ttt tta gtg atg gta ttt gac cgc tat gca gct gtt tgc agg 384
 Val Leu Phe Leu Val Met Val Phe Asp Arg Tyr Ala Val Val Cys Arg
 115 120 125

ccc ctc cac tac aca gta gtc atg cac cct tgt ctg tat gtg ctg atg 432
 Pro Leu His Tyr Thr Val Val Met His Pro Cys Leu Tyr Val Leu Met
 130 135 140

gct tct act tca tgg gtc att ggt ttt gcc aac tcc cta ttg cag acg 480
 Ala Ser Thr Ser Trp Val Ile Gly Phe Ala Asn Ser Leu Leu Gln Thr
 145 150 155 160
 gtg ctc atc ttg ctt tta aca ctt tgt gga aga aat aaa tta gaa cac 528
 Val Leu Ile Leu Leu Leu Thr Leu Cys Gly Arg Asn Lys Leu Glu His
 165 170 175
 ttt ctt tgt gag gtt cct cca ttg ctc aag ctt gcc tgt gtt gac act 576
 Phe Leu Cys Glu Val Pro Pro Leu Leu Lys Leu Ala Cys Val Asp Thr
 180 185 190
 act atg aat gaa tct gaa ctc ttc ttt gtc agt gtc att att ctt ctt 624
 Thr Met Asn Glu Ser Glu Leu Phe Phe Val Ser Val Ile Ile Leu Leu
 195 200 205
 gta cct gtt gca tta atc ata ttc tcc tat agt cag att gtc agg gca 672
 Val Pro Val Ala Leu Ile Ile Phe Ser Tyr Ser Gln Ile Val Arg Ala
 210 215 220
 gtc atg agg ata aag tta gca aca ggg cag aga aaa gtg ttt ggg aca 720
 Val Met Arg Ile Lys Leu Ala Thr Gly Gln Arg Lys Val Phe Gly Thr
 225 230 235 240
 tgt ggc tcc cac ctc aca gtg gtt tcc ctg ttc tac ggc aca gct atc 768
 Cys Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly Thr Ala Ile
 245 250 255
 tat gct tac ctc cag ccc ggc aac aac tac tct cag gat cag ggc aag 816
 Tyr Ala Tyr Leu Gln Pro Gly Asn Asn Tyr Ser Gln Asp Gln Gly Lys
 260 265 270
 ttc atc tct ctc ttc tac acc atc att aca ccc atg atc aac ccc ctc 864
 Phe Ile Ser Leu Phe Tyr Thr Ile Ile Thr Pro Met Ile Asn Pro Leu
 275 280 285
 ata tat aca ctg agg aac aag gat gtg aaa gga gca ctt aag aag gtg 912
 Ile Tyr Thr Leu Arg Asn Lys Asp Val Lys Gly Ala Leu Lys Lys Val
 290 295 300
 ctc tgg aag aac tac gac tcc aga tga 939
 Leu Trp Lys Asn Tyr Asp Ser Arg
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<210> 64

<211> 312

<212> PRT

<213> Homo Sapiens

<400> 64

Met Asp Gln Lys Asn Gly Ser Ser Phe Thr Gly Phe Ile Leu Leu Gly
 1 5 10 15

Phe Ser Asp Arg Pro Gln Leu Glu Leu Val Leu Phe Val Val Leu Leu
 20 25 30

Ile Phe Tyr Ile Phe Thr Leu Leu Gly Asn Lys Thr Ile Ile Val Leu
 35 40 45

Ser His Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Phe Ser
 50 55 60
 Asn Leu Ser Phe Leu Asp Leu Cys Tyr Thr Thr Gly Ile Val Pro Gln
 65 70 75 80
 Leu Leu Val Asn Leu Arg Gly Ala Asp Lys Ser Ile Ser Tyr Gly Gly
 85 90 95
 Cys Val Val Gln Leu Tyr Ile Ser Leu Gly Leu Gly Ser Thr Glu Cys
 100 105 110
 Val Leu Phe Leu Val Met Val Phe Asp Arg Tyr Ala Ala Val Cys Arg
 115 120 125
 Pro Leu His Tyr Thr Val Val Met His Pro Cys Leu Tyr Val Leu Met
 130 135 140
 Ala Ser Thr Ser Trp Val Ile Gly Phe Ala Asn Ser Leu Leu Gln Thr
 145 150 155 160
 Val Leu Ile Leu Leu Leu Thr Leu Cys Gly Arg Asn Lys Leu Glu His
 165 170 175
 Phe Leu Cys Glu Val Pro Pro Leu Leu Lys Leu Ala Cys Val Asp Thr
 180 185 190
 Thr Met Asn Glu Ser Glu Leu Phe Phe Val Ser Val Ile Ile Leu Leu
 195 200 205
 Val Pro Val Ala Leu Ile Ile Phe Ser Tyr Ser Gln Ile Val Arg Ala
 210 215 220
 Val Met Arg Ile Lys Leu Ala Thr Gly Gln Arg Lys Val Phe Gly Thr
 225 230 235 240
 Cys Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly Thr Ala Ile
 245 250 255
 Tyr Ala Tyr Leu Gln Pro Gly Asn Asn Tyr Ser Gln Asp Gln Gly Lys
 260 265 270
 Phe Ile Ser Leu Phe Tyr Thr Ile Ile Thr Pro Met Ile Asn Pro Leu
 275 280 285
 Ile Tyr Thr Leu Arg Asn Lys Asp Val Lys Gly Ala Leu Lys Lys Val
 290 295 300
 Leu Trp Lys Asn Tyr Asp Ser Arg

305

310

<210> 65

<211> 948

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(945)

<223>

<400> 65

atg	acc	aat	cag	aca	cag	atg	atg	gaa	ttc	ttg	ctt	gtg	aga	ttt	act	48
Met	Thr	Asn	Gln	Thr	Gln	Met	Met	Glu	Phe	Leu	Leu	Val	Arg	Phe	Thr	
1				5					10					15		

gag	aat	tgg	gtg	ctc	ctg	agg	ctg	cat	gct	ttg	ctc	ttc	tca	ctg	atc	96
Glu	Asn	Trp	Val	Leu	Leu	Arg	Leu	His	Ala	Leu	Leu	Phe	Ser	Leu	Ile	
			20					25					30			

tac	ctc	acg	gct	gtg	ctg	atg	aat	tta	gtc	atc	att	ctc	ctc	atg	att	144
Tyr	Leu	Thr	Ala	Val	Leu	Met	Asn	Leu	Val	Ile	Ile	Leu	Leu	Met	Ile	
		35					40					45				

ctg	gac	cat	cgt	ctc	cac	atg	gca	atg	tac	ttt	ttc	ctc	cga	cat	ttg	192
Leu	Asp	His	Arg	Leu	His	Met	Ala	Met	Tyr	Phe	Phe	Leu	Arg	His	Leu	
	50					55					60					

tcc	ttc	tta	gac	ctg	tgt	ctc	att	tct	gcc	aca	gtc	ccc	aaa	tcc	atc	240
Ser	Phe	Leu	Asp	Leu	Cys	Leu	Ile	Ser	Ala	Thr	Val	Pro	Lys	Ser	Ile	
65					70					75					80	

ctc	aac	tct	gtc	gcc	tcc	act	gac	tcc	atc	tcc	ttc	ctg	ggg	tgt	gtg	288
Leu	Asn	Ser	Val	Ala	Ser	Thr	Asp	Ser	Ile	Ser	Phe	Leu	Gly	Cys	Val	
				85					90					95		

ttg	cag	ctc	ttc	ttg	gtg	gta	ctg	ctg	gct	gga	tca	gag	att	ggc	atc	336
Leu	Gln	Leu	Phe	Leu	Val	Val	Leu	Leu	Ala	Gly	Ser	Glu	Ile	Gly	Ile	
			100					105						110		

ctt	act	gcc	atg	tcc	tat	gac	cgc	tat	gct	gcc	atc	tgc	tgc	ccc	cta	384
Leu	Thr	Ala	Met	Ser	Tyr	Asp	Arg	Tyr	Ala	Ala	Ile	Cys	Cys	Pro	Leu	
		115					120						125			

cac	tgt	gag	gct	gtc	atg	agc	aga	ggg	ctc	tgt	gtc	cag	ttg	atg	gct	432
His	Cys	Glu	Ala	Val	Met	Ser	Arg	Gly	Leu	Cys	Val	Gln	Leu	Met	Ala	
	130					135					140					

ctg	tcc	tgg	ctc	aac	aga	ggg	gcc	ttg	gga	ctc	ttg	tac	aca	gct	gga	480
Leu	Ser	Trp	Leu	Asn	Arg	Gly	Ala	Leu	Gly	Leu	Leu	Tyr	Thr	Ala	Gly	
145					150					155					160	

aca	ttc	tct	ctg	aat	ttt	tat	ggc	tct	gat	gag	cta	cat	cag	ttc	ttc	528
Thr	Phe	Ser	Leu	Asn	Phe	Tyr	Gly	Ser	Asp	Glu	Leu	His	Gln	Phe	Phe	
				165					170					175		

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tgc gat gtc cct gcc cta cta aag ctc act tgt tct aaa gaa cat gcc      576
Cys Asp Val Pro Ala Leu Leu Lys Leu Thr Cys Ser Lys Glu His Ala
180                               185                               190

atc att agt gtc agt gtg gcc att ggg gtc tgt tat gca ttt tca tgt      624
Ile Ile Ser Val Ser Val Ala Ile Gly Val Cys Tyr Ala Phe Ser Cys
195                               200                               205

tta gtt tgc att gta gtt tcc tat gtg tac att ttc tct gct gtg tta      672
Leu Val Cys Ile Val Val Ser Tyr Val Tyr Ile Phe Ser Ala Val Leu
210                               215                               220

agg ata tca cag aga cag aga caa tcc aaa gcc ttt tcc aac tgt gtg      720
Arg Ile Ser Gln Arg Gln Arg Gln Ser Lys Ala Phe Ser Asn Cys Val
225                               230                               235                               240

cct cac ctc att gtt gtc act gtg ttt ctt gta aca ggt gct gtt gct      768
Pro His Leu Ile Val Val Thr Val Phe Leu Val Thr Gly Ala Val Ala
245                               250                               255

tat tta aag cca ggg tct gat gca cct tct att cta gac ttg ctg gtg      816
Tyr Leu Lys Pro Gly Ser Asp Ala Pro Ser Ile Leu Asp Leu Leu Val
260                               265                               270

tct gtg ttc tat tct gtc gca cct cca acc ttg aac cct gtt atc tac      864
Ser Val Phe Tyr Ser Val Ala Pro Pro Thr Leu Asn Pro Val Ile Tyr
275                               280                               285

tgt ctg aag aac aag gac att aaa tcc gct ctg agt aaa gtc ctg tgg      912
Cys Leu Lys Asn Lys Asp Ile Lys Ser Ala Leu Ser Lys Val Leu Trp
290                               295                               300

aat gtt aga agc agt ggg gta atg aaa gat gac taa      948
Asn Val Arg Ser Ser Gly Val Met Lys Asp Asp
305                               310                               315

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<210> 66

<211> 315

<212> PRT

<213> Homo Sapiens

<400> 66

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Met Thr Asn Gln Thr Gln Met Met Glu Phe Leu Leu Val Arg Phe Thr
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Glu Asn Trp Val Leu Leu Arg Leu His Ala Leu Leu Phe Ser Leu Ile
20                               25                               30

Tyr Leu Thr Ala Val Leu Met Asn Leu Val Ile Ile Leu Leu Met Ile
35                               40                               45

Leu Asp His Arg Leu His Met Ala Met Tyr Phe Phe Leu Arg His Leu
50                               55                               60

Ser Phe Leu Asp Leu Cys Leu Ile Ser Ala Thr Val Pro Lys Ser Ile

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65	70	75	80
Leu Asn Ser Val	Ala Ser Thr Asp Ser	Ile Ser Phe Leu Gly Cys Val	
	85	90	95
Leu Gln Leu Phe	Leu Val Val Leu	Leu Ala Gly Ser Glu	Ile Gly Ile
	100	105	110
Leu Thr Ala Met	Ser Tyr Asp Arg Tyr	Ala Ala Ile Cys Cys Pro	Leu
	115	120	125
His Cys Glu Ala	Val Met Ser Arg Gly	Leu Cys Val Gln	Leu Met Ala
	130	135	140
Leu Ser Trp Leu	Asn Arg Gly Ala	Leu Gly Leu Leu Tyr	Thr Ala Gly
	145	150	155
Thr Phe Ser Leu	Asn Phe Tyr Gly Ser	Asp Glu Leu His Gln	Phe Phe
	165	170	175
Cys Asp Val Pro	Ala Leu Leu Lys	Leu Thr Cys Ser Lys	Glu His Ala
	180	185	190
Ile Ile Ser Val	Ser Val Ala Ile Gly	Val Cys Tyr Ala	Phe Ser Cys
	195	200	205
Leu Val Cys Ile	Val Val Ser Tyr	Val Tyr Ile Phe Ser	Ala Val Leu
	210	215	220
Arg Ile Ser Gln	Arg Gln Arg Gln Ser	Lys Ala Phe Ser Asn	Cys Val
	225	230	235
Pro His Leu Ile	Val Val Thr Val Phe	Leu Val Thr Gly Ala	Val Ala
	245	250	255
Tyr Leu Lys Pro	Gly Ser Asp Ala Pro	Ser Ile Leu Asp Leu	Leu Val
	260	265	270
Ser Val Phe Tyr	Ser Val Ala Pro Pro	Thr Leu Asn Pro	Val Ile Tyr
	275	280	285
Cys Leu Lys Asn	Lys Asp Ile Lys Ser	Ala Leu Ser Lys	Val Leu Trp
	290	295	300
Asn Val Arg Ser	Ser Gly Val Met Lys	Asp Asp	
	305	310	315

<210> 67
 <211> 921
 <212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(918)

<223>

<400> 67

atg	gtg	act	gag	ttt	ctt	ctt	ctc	ggc	ttc	tcc	cac	ctg	gcc	gac	ctc	48
Met	Val	Thr	Glu	Phe	Leu	Leu	Leu	Gly	Phe	Ser	His	Leu	Ala	Asp	Leu	
1				5					10					15		
cag	ggc	ttg	ctc	ttc	tct	gtc	ttt	ctc	act	atc	tac	ctg	ctg	acc	gtg	96
Gln	Gly	Leu	Leu	Phe	Ser	Val	Phe	Leu	Thr	Ile	Tyr	Leu	Leu	Thr	Val	
			20					25					30			
gca	ggc	aat	ttc	ctc	att	gtg	gtg	ctg	gtc	tcc	act	gat	gct	gcc	ctc	144
Ala	Gly	Asn	Phe	Leu	Ile	Val	Val	Leu	Val	Ser	Thr	Asp	Ala	Ala	Leu	
		35					40					45				
cag	tcc	cct	atg	tac	ttc	ttc	ctg	cgc	acc	ctc	tcg	gcc	ttg	gag	att	192
Gln	Ser	Pro	Met	Tyr	Phe	Phe	Leu	Arg	Thr	Leu	Ser	Ala	Leu	Glu	Ile	
	50					55					60					
ggc	tat	acg	tct	gtc	acg	gtc	ccc	ctg	cta	ctt	cac	cac	ctc	ctt	act	240
Gly	Tyr	Thr	Ser	Val	Thr	Val	Pro	Leu	Leu	Leu	His	His	Leu	Leu	Thr	
65					70					75					80	
ggc	cgg	cgc	cac	atc	tct	cgc	tct	gga	tgt	gct	ctc	cag	atg	ttc	ttc	288
Gly	Arg	Arg	His	Ile	Ser	Arg	Ser	Gly	Cys	Ala	Leu	Gln	Met	Phe	Phe	
				85					90					95		
ttc	ctc	ttc	ttt	ggc	gcc	acg	gag	tgc	tgc	ctc	ctg	gca	gcc	atg	gcc	336
Phe	Leu	Phe	Phe	Gly	Ala	Thr	Glu	Cys	Cys	Leu	Leu	Ala	Ala	Met	Ala	
			100					105					110			
tat	gac	cgc	tat	gca	gcc	atc	tgt	gaa	ccc	ctc	cgc	tac	cca	ctg	ctg	384
Tyr	Asp	Arg	Tyr	Ala	Ala	Ile	Cys	Glu	Pro	Leu	Arg	Tyr	Pro	Leu	Leu	
		115					120					125				
ctg	agc	cac	cgg	gtg	tgt	cta	cag	cta	gct	ggg	tcg	gcg	tgg	gcc	tgt	432
Leu	Ser	His	Arg	Val	Cys	Leu	Gln	Leu	Ala	Gly	Ser	Ala	Trp	Ala	Cys	
	130					135					140					
ggg	gtg	ctg	gtg	ggg	ctg	ggc	cac	acc	cct	ttc	atc	ttc	tct	ttg	ccc	480
Gly	Val	Leu	Val	Gly	Leu	Gly	His	Thr	Pro	Phe	Ile	Phe	Ser	Leu	Pro	
145					150					155					160	
ttc	tgc	ggc	ccc	aat	acc	atc	ccg	cag	ttc	ttc	tgt	gag	atc	cag	cct	528
Phe	Cys	Gly	Pro	Asn	Thr	Ile	Pro	Gln	Phe	Phe	Cys	Glu	Ile	Gln	Pro	
				165					170					175		
gtc	ctg	cag	ctg	gta	tgt	gga	gac	acc	tcg	ctt	aat	gaa	ctg	cag	att	576
Val	Leu	Gln	Leu	Val	Cys	Gly	Asp	Thr	Ser	Leu	Asn	Glu	Leu	Gln	Ile	
			180				185						190			
atc	ctg	gca	aca	gcc	ctc	ctc	atc	ctc	tgc	ccc	ttt	ggc	ctc	atc	ctg	624
Ile	Leu	Ala	Thr	Ala	Leu	Leu	Ile	Leu	Cys	Pro	Phe	Gly	Leu	Ile	Leu	
		195					200					205				

ggc tcc tac ggg cgt atc ctc gtt acc atc ttc cgg atc cca tct gtt 672
 Gly Ser Tyr Gly Arg Ile Leu Val Thr Ile Phe Arg Ile Pro Ser Val
 210 215 220
 gcg ggc cgc cgc aag gcc ttc tcc acc tgc tcc tcc cac ctg atc gtg 720
 Ala Gly Arg Arg Lys Ala Phe Ser Thr Cys Ser Ser His Leu Ile Val
 225 230 235 240
 gtc tcc ctc ttc tat ggc acc gca ctc ttt atc tat att cgc cct aag 768
 Val Ser Leu Phe Tyr Gly Thr Ala Leu Phe Ile Tyr Ile Arg Pro Lys
 245 250 255
 gcc agc tac gat ccg gcc act gac cct ctg gtg tcc ctc ttc tat gct 816
 Ala Ser Tyr Asp Pro Ala Thr Asp Pro Leu Val Ser Leu Phe Tyr Ala
 260 265 270
 gtg gtc acc ccc atc ctc aac ccc atc atc tac agc ctg cgg aac aca 864
 Val Val Thr Pro Ile Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Thr
 275 280 285
 gag gtc aaa gct gcc cta aag aga acc atc cag aaa acg gtg cct atg 912
 Glu Val Lys Ala Ala Leu Lys Arg Thr Ile Gln Lys Thr Val Pro Met
 290 295 300
 gag att tga 921
 Glu Ile
 305

<210> 68

<211> 306

<212> PRT

<213> Homo Sapiens

<400> 68

Met Val Thr Glu Phe Leu Leu Leu Gly Phe Ser His Leu Ala Asp Leu
 1 5 10 15
 Gln Gly Leu Leu Phe Ser Val Phe Leu Thr Ile Tyr Leu Leu Thr Val
 20 25 30
 Ala Gly Asn Phe Leu Ile Val Val Leu Val Ser Thr Asp Ala Ala Leu
 35 40 45
 Gln Ser Pro Met Tyr Phe Phe Leu Arg Thr Leu Ser Ala Leu Glu Ile
 50 55 60
 Gly Tyr Thr Ser Val Thr Val Pro Leu Leu Leu His His Leu Leu Thr
 65 70 75 80
 Gly Arg Arg His Ile Ser Arg Ser Gly Cys Ala Leu Gln Met Phe Phe
 85 90 95
 Phe Leu Phe Phe Gly Ala Thr Glu Cys Cys Leu Leu Ala Ala Met Ala

100 105 110
 Tyr Asp Arg Tyr Ala Ala Ile Cys Glu Pro Leu Arg Tyr Pro Leu Leu
 115 120 125
 Leu Ser His Arg Val Cys Leu Gln Leu Ala Gly Ser Ala Trp Ala Cys
 130 135 140
 Gly Val Leu Val Gly Leu Gly His Thr Pro Phe Ile Phe Ser Leu Pro
 145 150 155 160
 Phe Cys Gly Pro Asn Thr Ile Pro Gln Phe Phe Cys Glu Ile Gln Pro
 165 170 175
 Val Leu Gln Leu Val Cys Gly Asp Thr Ser Leu Asn Glu Leu Gln Ile
 180 185 190
 Ile Leu Ala Thr Ala Leu Leu Ile Leu Cys Pro Phe Gly Leu Ile Leu
 195 200 205
 Gly Ser Tyr Gly Arg Ile Leu Val Thr Ile Phe Arg Ile Pro Ser Val
 210 215 220
 Ala Gly Arg Arg Lys Ala Phe Ser Thr Cys Ser Ser His Leu Ile Val
 225 230 235 240
 Val Ser Leu Phe Tyr Gly Thr Ala Leu Phe Ile Tyr Ile Arg Pro Lys
 245 250 255
 Ala Ser Tyr Asp Pro Ala Thr Asp Pro Leu Val Ser Leu Phe Tyr Ala
 260 265 270
 Val Val Thr Pro Ile Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Thr
 275 280 285
 Glu Val Lys Ala Ala Leu Lys Arg Thr Ile Gln Lys Thr Val Pro Met
 290 295 300

Glu Ile
305

<210> 69
 <211> 978
 <212> DNA
 <213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (975)

<223>

<400> 69

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1 5 10 15	
ttc att ctt ctg ggg ttt cca aca cga cca gcc ttc cag ctt ctc ttt	96
Phe Ile Leu Leu Gly Phe Pro Thr Arg Pro Ala Phe Gln Leu Leu Phe	
20 25 30	
ttc tcc att ttc ctg gca acc tat ctg ctg aca ctg ctg gag aat ctt	144
Phe Ser Ile Phe Leu Ala Thr Tyr Leu Leu Thr Leu Leu Glu Asn Leu	
35 40 45	
ctt atc atc tta gct atc cac agt gat ggg cag ctg cat aag ccc atg	192
Leu Ile Ile Leu Ala Ile His Ser Asp Gly Gln Leu His Lys Pro Met	
50 55 60	
tac ttc ttc ttg agc cac ctc tcc ttc ctg gag atg tgg tat gtc aca	240
Tyr Phe Phe Leu Ser His Leu Ser Phe Leu Glu Met Trp Tyr Val Thr	
65 70 75 80	
gtc atc agc ccc aag atg ctt gtt gac ttc ctc agt cat gac aag agt	288
Val Ile Ser Pro Lys Met Leu Val Asp Phe Leu Ser His Asp Lys Ser	
85 90 95	
att tcc ttc aat ggc tgc atg act caa ctt tac ttt ttt gtg acc ttt	336
Ile Ser Phe Asn Gly Cys Met Thr Gln Leu Tyr Phe Phe Val Thr Phe	
100 105 110	
gtc tgc act gag tac atc ctt ctt gct atc atg gcc ttt gac cgc tat	384
Val Cys Thr Glu Tyr Ile Leu Leu Ala Ile Met Ala Phe Asp Arg Tyr	
115 120 125	
gta gcc att tgt aat cca cta cgc tac cca gtc atc atg acc aac cag	432
Val Ala Ile Cys Asn Pro Leu Arg Tyr Pro Val Ile Met Thr Asn Gln	
130 135 140	
ctc tgt ggc aca ctg gct gga gga tgc tgg ttc tgt gga ctc atg act	480
Leu Cys Gly Thr Leu Ala Gly Gly Cys Trp Phe Cys Gly Leu Met Thr	
145 150 155 160	
gcc atg att aag atg gtt ttt ata gca caa ctt cac tac tgt ggc atg	528
Ala Met Ile Lys Met Val Phe Ile Ala Gln Leu His Tyr Cys Gly Met	
165 170 175	
cct cag atc aat cac tac ttt tgt gat atc tct cca ctc ctt aac gtc	576
Pro Gln Ile Asn His Tyr Phe Cys Asp Ile Ser Pro Leu Leu Asn Val	
180 185 190	
tcc tgt gag gat gcc tca cag gct gag atg gtg gac ttc ttc ttg gcc	624
Ser Cys Glu Asp Ala Ser Gln Ala Glu Met Val Asp Phe Phe Leu Ala	
195 200 205	
ctc atg gtc att gct att cct ctt tgt gtt gtg gtg gca tcc tac gct	672
Leu Met Val Ile Ala Ile Pro Leu Cys Val Val Val Ala Ser Tyr Ala	
210 215 220	
gct atc ctt gcc acc atc ctc agg atc cct tct gct cag ggc cgc caa	720
Ala Ile Leu Ala Thr Ile Leu Arg Ile Pro Ser Ala Gln Gly Arg Gln	
225 230 235 240	

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aag gca ttc tcc acc tgt gcc tcc cac ctg acc gtc gta att ctc ttc      768
Lys Ala Phe Ser Thr Cys Ala Ser His Leu Thr Val Val Ile Leu Phe
                245                      250                      255

tat tcc atg aca ctt ttc acc tat gcc cgt ccc aaa ctc atg tat gcc      816
Tyr Ser Met Thr Leu Phe Thr Tyr Ala Arg Pro Lys Leu Met Tyr Ala
                260                      265                      270

tac aat tcc aac aaa gtg gta tct gtt ctc tac act gtc att gtt cca      864
Tyr Asn Ser Asn Lys Val Val Ser Val Leu Tyr Thr Val Ile Val Pro
                275                      280                      285

ctc ctc aac ccc atc att tac tgt ctg agg aac cat gaa gta aag gca      912
Leu Leu Asn Pro Ile Ile Tyr Cys Leu Arg Asn His Glu Val Lys Ala
                290                      295                      300

gcc ctc aga aag acc ata cat tgc aga gga agt ggg ccc cag gga aat      960
Ala Leu Arg Lys Thr Ile His Cys Arg Gly Ser Gly Pro Gln Gly Asn
305                      310                      315                      320

ggg gct ttc agt agt taa      978
Gly Ala Phe Ser Ser
                325

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<210> 70

<211> 325

<212> PRT

<213> Homo Sapiens

<400> 70

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Met Thr Thr Ile Ile Leu Glu Val Asp Asn His Thr Val Thr Thr Arg
1                      5                      10                      15

Phe Ile Leu Leu Gly Phe Pro Thr Arg Pro Ala Phe Gln Leu Leu Phe
                20                      25                      30

Phe Ser Ile Phe Leu Ala Thr Tyr Leu Leu Thr Leu Leu Glu Asn Leu
35                      40                      45

Leu Ile Ile Leu Ala Ile His Ser Asp Gly Gln Leu His Lys Pro Met
50                      55                      60

Tyr Phe Phe Leu Ser His Leu Ser Phe Leu Glu Met Trp Tyr Val Thr
65                      70                      75                      80

Val Ile Ser Pro Lys Met Leu Val Asp Phe Leu Ser His Asp Lys Ser
85                      90                      95

Ile Ser Phe Asn Gly Cys Met Thr Gln Leu Tyr Phe Phe Val Thr Phe
100                      105                      110

Val Cys Thr Glu Tyr Ile Leu Leu Ala Ile Met Ala Phe Asp Arg Tyr

```

115	120	125
Val Ala Ile Cys Asn Pro Leu Arg Tyr Pro Val Ile Met Thr Asn Gln 130 135 140		
Leu Cys Gly Thr Leu Ala Gly Gly Cys Trp Phe Cys Gly Leu Met Thr 145 150 155 160		
Ala Met Ile Lys Met Val Phe Ile Ala Gln Leu His Tyr Cys Gly Met 165 170 175		
Pro Gln Ile Asn His Tyr Phe Cys Asp Ile Ser Pro Leu Leu Asn Val 180 185 190		
Ser Cys Glu Asp Ala Ser Gln Ala Glu Met Val Asp Phe Phe Leu Ala 195 200 205		
Leu Met Val Ile Ala Ile Pro Leu Cys Val Val Val Ala Ser Tyr Ala 210 215 220		
Ala Ile Leu Ala Thr Ile Leu Arg Ile Pro Ser Ala Gln Gly Arg Gln 225 230 235 240		
Lys Ala Phe Ser Thr Cys Ala Ser His Leu Thr Val Val Ile Leu Phe 245 250 255		
Tyr Ser Met Thr Leu Phe Thr Tyr Ala Arg Pro Lys Leu Met Tyr Ala 260 265 270		
Tyr Asn Ser Asn Lys Val Val Ser Val Leu Tyr Thr Val Ile Val Pro 275 280 285 .		
Leu Leu Asn Pro Ile Ile Tyr Cys Leu Arg Asn His Glu Val Lys Ala 290 295 300		
Ala Leu Arg Lys Thr Ile His Cys Arg Gly Ser Gly Pro Gln Gly Asn 305 310 315 320		
Gly Ala Phe Ser Ser 325		

<210> 71
<211> 915

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (912)

<223>

<400> 71

atg ctg gct aga aac aac tcc tta gtg act gaa ttt att ctt gct gga	48
Met Leu Ala Arg Asn Asn Ser Leu Val Thr Glu Phe Ile Leu Ala Gly	
1 5 10 15	
tta aca gat cat cca gag ttc cag caa ccc ctc ttt ttc ctg ttt cta	96
Leu Thr Asp His Pro Glu Phe Gln Gln Pro Leu Phe Phe Leu Phe Leu	
20 25 30	
gtg gtc tac att gtc acc atg gta ggc aac ctt ggc ttg atc att ctt	144
Val Val Tyr Ile Val Thr Met Val Gly Asn Leu Gly Leu Ile Ile Leu	
35 40 45	
ttc ggt cta aat tct cac ctc cac aca cca atg tac tat ttc ctc ttc	192
Phe Gly Leu Asn Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Phe	
50 55 60	
aat ctc tcc ttc att gat ctc tgt tac tcc tct gtt ttc act ccc aaa	240
Asn Leu Ser Phe Ile Asp Leu Cys Tyr Ser Ser Val Phe Thr Pro Lys	
65 70 75 80	
atg cta atg aac ttt gta tca aaa aag aat att atc tcc tat gtt ggg	288
Met Leu Met Asn Phe Val Ser Lys Lys Asn Ile Ile Ser Tyr Val Gly	
85 90 95	
tgc atg act cag ctg ttt ttc ttt ctc ttt ttt gtc atc tct gaa tgt	336
Cys Met Thr Gln Leu Phe Phe Phe Leu Phe Phe Val Ile Ser Glu Cys	
100 105 110	
tac atg ttg acc tca atg gca tat gat cgc tat gtg gcc atc tgt aat	384
Tyr Met Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn	
115 120 125	
cca ttg ctg tat aag gtc acc atg tcc cat cag gtc tgt tct atg ctc	432
Pro Leu Leu Tyr Lys Val Thr Met Ser His Gln Val Cys Ser Met Leu	
130 135 140	
act ttt gct gct tac ata atg gga ttg gct gga gcc acg gcc cac acc	480
Thr Phe Ala Ala Tyr Ile Met Gly Leu Ala Gly Ala Thr Ala His Thr	
145 150 155 160	
ggg tgc atg ctt aga ctc acc ttc tgc agt gct aat atc atc aac cat	528
Gly Cys Met Leu Arg Leu Thr Phe Cys Ser Ala Asn Ile Ile Asn His	
165 170 175	
tac ttg tgt gac ata ctc ccc ctc ctc cag ctt tcc tgc acc agc acc	576
Tyr Leu Cys Asp Ile Leu Pro Leu Leu Gln Leu Ser Cys Thr Ser Thr	
180 185 190	
tat gtc aac gag gtg gtt gtt ctc att gtt gtg ggt att aat atc atg	624
Tyr Val Asn Glu Val Val Val Leu Ile Val Val Gly Ile Asn Ile Met	
195 200 205	
gta ccc agt tgt acc atc ctc att tct tat gtt ttc att gtc act agc	672
Val Pro Ser Cys Thr Ile Leu Ile Ser Tyr Val Phe Ile Val Thr Ser	
210 215 220	
att ctt cat atc aaa tcc act caa gga aga tca aaa gcc ttc agt act	720
Ile Leu His Ile Lys Ser Thr Gln Gly Arg Ser Lys Ala Phe Ser Thr	
225 230 235 240	

tgt agc tct cat gtc att gct ctg tct ctg ttt ttt ggg tca gcg gca 768
 Cys Ser Ser His Val Ile Ala Leu Ser Leu Phe Phe Gly Ser Ala Ala
 245 250 255

ttc atg tat att aaa tat tct tct gga tct atg gag cag gga aaa gtt 816
 Phe Met Tyr Ile Lys Tyr Ser Ser Gly Ser Met Glu Gln Gly Lys Val
 260 265 270

tct tct gtt ttc tac act aat gtg gtg ccc atg ctc aat cct ctc atc 864
 Ser Ser Val Phe Tyr Thr Asn Val Val Pro Met Leu Asn Pro Leu Ile
 275 280 285

tac agt ttg agg aac aag gat gtc aaa gtt gca ctg agg aaa gct ctg 912
 Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Arg Lys Ala Leu
 290 295 300

att 915

<210> 72

<211> 304

<212> PRT

<213> Homo Sapiens

<400> 72

Met Leu Ala Arg Asn Asn Ser Leu Val Thr Glu Phe Ile Leu Ala Gly
 1 5 10 15

Leu Thr Asp His Pro Glu Phe Gln Gln Pro Leu Phe Phe Leu Phe Leu
 20 25 30

Val Val Tyr Ile Val Thr Met Val Gly Asn Leu Gly Leu Ile Ile Leu
 35 40 45

Phe Gly Leu Asn Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Phe
 50 55 60

Asn Leu Ser Phe Ile Asp Leu Cys Tyr Ser Ser Val Phe Thr Pro Lys
 65 70 75 80

Met Leu Met Asn Phe Val Ser Lys Lys Asn Ile Ile Ser Tyr Val Gly
 85 90 95

Cys Met Thr Gln Leu Phe Phe Phe Leu Phe Phe Val Ile Ser Glu Cys
 100 105 110

Tyr Met Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
 115 120 125

Pro Leu Leu Tyr Lys Val Thr Met Ser His Gln Val Cys Ser Met Leu
 130 135 140

Thr Phe Ala Ala Tyr Ile Met Gly Leu Ala Gly Ala Thr Ala His Thr
145 150 155 160

Gly Cys Met Leu Arg Leu Thr Phe Cys Ser Ala Asn Ile Ile Asn His
165 170 175

Tyr Leu Cys Asp Ile Leu Pro Leu Leu Gln Leu Ser Cys Thr Ser Thr
180 185 190

Tyr Val Asn Glu Val Val Val Leu Ile Val Val Gly Ile Asn Ile Met
195 200 205

Val Pro Ser Cys Thr Ile Leu Ile Ser Tyr Val Phe Ile Val Thr Ser
210 215 220

Ile Leu His Ile Lys Ser Thr Gln Gly Arg Ser Lys Ala Phe Ser Thr
225 230 235 240

Cys Ser Ser His Val Ile Ala Leu Ser Leu Phe Phe Gly Ser Ala Ala
245 250 255

Phe Met Tyr Ile Lys Tyr Ser Ser Gly Ser Met Glu Gln Gly Lys Val
260 265 270

Ser Ser Val Phe Tyr Thr Asn Val Val Pro Met Leu Asn Pro Leu Ile
275 280 285

Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Arg Lys Ala Leu
290 295 300

<210> 73

<211> 942

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (939)

<223>

<400> 73

atg ctg gct aga aac aac tcc tta gtg act gaa ttt att ctt gct gga 48
Met Leu Ala Arg Asn Asn Ser Leu Val Thr Glu Phe Ile Leu Ala Gly
1 5 10 15

tta aca gat cat cca gag ttc cgg caa ccc ctc ttt ttc ctg ttt cta 96

Leu	Thr	Asp	His	Pro	Glu	Phe	Arg	Gln	Pro	Leu	Phe	Phe	Leu	Phe	Leu		
			20					25					30				
gtg	atc	tac	att	gtc	acc	atg	gta	ggc	aac	ctt	ggc	ttg	atc	act	ctt	144	
Val	Ile	Tyr	Ile	Val	Thr	Met	Val	Gly	Asn	Leu	Gly	Leu	Ile	Thr	Leu		
		35					40					45					
ttc	ggg	cta	aat	tct	cac	ctc	cac	aca	cca	atg	tac	tat	ttc	ctc	ttc	192	
Phe	Gly	Leu	Asn	Ser	His	Leu	His	Thr	Pro	Met	Tyr	Tyr	Phe	Leu	Phe		
	50					55					60						
aat	ctc	tcc	ttc	att	gat	ctc	tgt	tac	tcc	tct	gtt	ttc	act	ccc	aaa	240	
Asn	Leu	Ser	Phe	Ile	Asp	Leu	Cys	Tyr	Ser	Ser	Val	Phe	Thr	Pro	Lys		
	65				70				75						80		
atg	cta	atg	aac	ttt	gtg	tca	aaa	aag	aat	att	atc	tcc	aat	gtt	ggg	288	
Met	Leu	Met	Asn	Phe	Val	Ser	Lys	Lys	Asn	Ile	Ile	Ser	Asn	Val	Gly		
				85				90						95			
tgc	atg	act	cgg	ctg	ttt	ttc	ttt	ctc	ttt	ttc	gtc	atc	tct	gaa	tgt	336	
Cys	Met	Thr	Arg	Leu	Phe	Phe	Phe	Leu	Phe	Phe	Val	Ile	Ser	Glu	Cys		
			100					105					110				
tac	atg	ttg	act	tca	atg	gca	tat	gat	cgc	tat	gtg	gcc	atc	tgt	aat	384	
Tyr	Met	Leu	Thr	Ser	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Asn		
		115					120					125					
cca	ttg	ctg	tat	aag	gtc	acc	atg	tcc	cat	cag	gtc	tgt	tct	atg	ctc	432	
Pro	Leu	Leu	Tyr	Lys	Val	Thr	Met	Ser	His	Gln	Val	Cys	Ser	Met	Leu		
	130					135					140						
act	ttt	gct	gct	tac	ata	atg	gga	ttg	gct	gga	gcc	acg	gcc	cac	acc	480	
Thr	Phe	Ala	Ala	Tyr	Ile	Met	Gly	Leu	Ala	Gly	Ala	Thr	Ala	His	Thr		
	145				150					155					160		
ggg	tgc	atg	ctt	aga	ctc	acc	ttc	tgc	agt	gct	aat	atc	atc	aac	cat	528	
Gly	Cys	Met	Leu	Arg	Leu	Thr	Phe	Cys	Ser	Ala	Asn	Ile	Ile	Asn	His		
				165				170						175			
tac	ttg	tgt	gac	ata	ctc	ccc	ctc	ctc	cag	ctt	tcc	tgc	acc	agc	acc	576	
Tyr	Leu	Cys	Asp	Ile	Leu	Pro	Leu	Leu	Gln	Leu	Ser	Cys	Thr	Ser	Thr		
			180					185					190				
tat	gtc	aac	gag	gtg	gtt	gtt	ctc	att	gtt	gtg	ggg	act	aat	atc	acg	624	
Tyr	Val	Asn	Glu	Val	Val	Val	Leu	Ile	Val	Val	Gly	Thr	Asn	Ile	Thr		
		195					200					205					
gta	ccc	agt	tgt	acc	atc	ctc	att	tct	tat	gtt	ttc	att	gtc	act	agc	672	
Val	Pro	Ser	Cys	Thr	Ile	Leu	Ile	Ser	Tyr	Val	Phe	Ile	Val	Thr	Ser		
	210					215					220						
att	ctt	cat	atc	aaa	tcc	act	caa	gga	aga	tca	aaa	gcc	ttc	agt	act	720	
Ile	Leu	His	Ile	Lys	Ser	Thr	Gln	Gly	Arg	Ser	Lys	Ala	Phe	Ser	Thr		
	225				230					235					240		
tgt	agc	tct	cat	gtc	att	gct	ctg	tct	ctg	ttt	ttt	ggg	tca	gcg	gca	768	
Cys	Ser	Ser	His	Val	Ile	Ala	Leu	Ser	Leu	Phe	Phe	Gly	Ser	Ala	Ala		
				245				250						255			
ttc	atg	tat	att	aaa	tat	tct	tct	gga	tct	atg	gag	cag	gga	aaa	gtt	816	
Phe	Met	Tyr	Ile	Lys	Tyr	Ser	Ser	Gly	Ser	Met	Glu	Gln	Gly	Lys	Val		
			260					265					270				
tct	tct	gtt	ttc	tac	act	aat	gtg	gtg	ccc	atg	ctc	aat	ccc	ctc	atc	864	
Ser	Ser	Val	Phe	Tyr	Thr	Asn	Val	Val	Pro	Met	Leu	Asn	Pro	Leu	Ile		
		275					280					285					

tac agt ttg agg aac aag gat gtc aaa gtt gca ctg agg aaa gct ctg 912
 Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Arg Lys Ala Leu
 290 295 300

att aaa att cag agg aga aat ata ttc taa 942
 Ile Lys Ile Gln Arg Arg Asn Ile Phe
 305 310

<210> 74

<211> 313

<212> PRT

<213> Homo Sapiens

<400> 74

Met Leu Ala Arg Asn Asn Ser Leu Val Thr Glu Phe Ile Leu Ala Gly
 1 5 10 15

Leu Thr Asp His Pro Glu Phe Arg Gln Pro Leu Phe Phe Leu Phe Leu
 20 25 30

Val Ile Tyr Ile Val Thr Met Val Gly Asn Leu Gly Leu Ile Thr Leu
 35 40 45

Phe Gly Leu Asn Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Phe
 50 55 60

Asn Leu Ser Phe Ile Asp Leu Cys Tyr Ser Ser Val Phe Thr Pro Lys
 65 70 75 80

Met Leu Met Asn Phe Val Ser Lys Lys Asn Ile Ile Ser Asn Val Gly
 85 90 95

Cys Met Thr Arg Leu Phe Phe Phe Leu Phe Phe Val Ile Ser Glu Cys
 100 105 110

Tyr Met Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
 115 120 125

Pro Leu Leu Tyr Lys Val Thr Met Ser His Gln Val Cys Ser Met Leu
 130 135 140

Thr Phe Ala Ala Tyr Ile Met Gly Leu Ala Gly Ala Thr Ala His Thr
 145 150 155 160

Gly Cys Met Leu Arg Leu Thr Phe Cys Ser Ala Asn Ile Ile Asn His
 165 170 175

Tyr Leu Cys Asp Ile Leu Pro Leu Leu Gln Leu Ser Cys Thr Ser Thr
 180 185 190

Tyr Val Asn Glu Val Val Val Leu Ile Val Val Gly Thr Asn Ile Thr
195 200 205

Val Pro Ser Cys Thr Ile Leu Ile Ser Tyr Val Phe Ile Val Thr Ser
210 215 220

Ile Leu His Ile Lys Ser Thr Gln Gly Arg Ser Lys Ala Phe Ser Thr
225 230 235 240

Cys Ser Ser His Val Ile Ala Leu Ser Leu Phe Phe Gly Ser Ala Ala
245 250 255

Phe Met Tyr Ile Lys Tyr Ser Ser Gly Ser Met Glu Gln Gly Lys Val
260 265 270

Ser Ser Val Phe Tyr Thr Asn Val Val Pro Met Leu Asn Pro Leu Ile
275 280 285

Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Arg Lys Ala Leu
290 295 300

Ile Lys Ile Gln Arg Arg Asn Ile Phe
305 310

<210> 75
<211> 969

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(966)

<223>

<400> 75
atg agc cct gag aac cag agc agc gtg tcc gag ttc ctc ctc ctg ggc 48
Met Ser Pro Glu Asn Gln Ser Ser Val Ser Glu Phe Leu Leu Leu Gly
1 5 10 15
ctc ccc atc cgg cca gag cag cag gcc gtg ttc ttc gcc ctg ttc ctg 96
Leu Pro Ile Arg Pro Glu Gln Gln Ala Val Phe Phe Ala Leu Phe Leu
20 25 30
ggc atg tac ctg acc acg gtg ctg ggg aac ctg ctc atc atg ctg ctc 144
Gly Met Tyr Leu Thr Thr Val Leu Gly Asn Leu Leu Ile Met Leu Leu
35 40 45
atc cag cta gac tct cac ctt cac acc ccc atg tac ttc ttc ctt agc 192

Ile	Gln	Leu	Asp	Ser	His	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Ser		
50						55					60						
cac	ttg	gcc	ctc	act	gac	atc	tcc	ttt	tca	tct	gtc	act	gtc	cct	aag	240	
His	Leu	Ala	Leu	Thr	Asp	Ile	Ser	Phe	Ser	Ser	Val	Thr	Val	Pro	Lys		
65					70					75					80		
atg	ctg	atg	aac	atg	cag	act	cag	cac	cta	gcc	gtc	ttt	tac	aag	gga	288	
Met	Leu	Met	Asn	Met	Gln	Thr	Gln	His	Leu	Ala	Val	Phe	Tyr	Lys	Gly		
				85					90					95			
tgc	att	tca	cag	aca	tat	ttt	ttc	ata	ttt	ttt	gct	gac	tta	gac	agt	336	
Cys	Ile	Ser	Gln	Thr	Tyr	Phe	Phe	Ile	Phe	Phe	Ala	Asp	Leu	Asp	Ser		
			100					105					110				
ttc	ctt	atc	act	tca	atg	gca	tat	gac	agg	tat	gtg	gcc	atc	tgt	cat	384	
Phe	Leu	Ile	Thr	Ser	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	His		
		115					120					125					
cct	cta	cat	tat	gcc	acc	atc	atg	act	cag	agc	cag	tgt	gtc	atg	ctg	432	
Pro	Leu	His	Tyr	Ala	Thr	Ile	Met	Thr	Gln	Ser	Gln	Cys	Val	Met	Leu		
	130					135					140						
gtg	gct	ggg	tcc	tgg	gtc	atc	gct	tgt	gcg	tgt	gct	ctt	ttg	cat	acc	480	
Val	Ala	Gly	Ser	Trp	Val	Ile	Ala	Cys	Ala	Cys	Ala	Leu	Leu	His	Thr		
145					150					155					160		
ctc	ctc	ctg	gcc	cag	ctt	tcc	ttc	tgt	gct	gac	cac	atc	atc	cct	cac	528	
Leu	Leu	Leu	Ala	Gln	Leu	Ser	Phe	Cys	Ala	Asp	His	Ile	Ile	Pro	His		
				165					170					175			
tac	ttc	tgt	gac	ctt	ggc	ctg	ctc	aag	ttg	tcc	tgc	tca	gac	acc		576	
Tyr	Phe	Cys	Asp	Leu	Gly	Ala	Leu	Leu	Lys	Leu	Ser	Cys	Ser	Asp	Thr		
			180					185					190				
tcc	ctc	aat	cag	tta	gca	atc	ttt	aca	gca	gca	ttg	aca	gcc	att	atg	624	
Ser	Leu	Asn	Gln	Leu	Ala	Ile	Phe	Thr	Ala	Ala	Leu	Thr	Ala	Ile	Met		
		195					200					205					
ctt	cca	ttc	ctg	tgc	atc	ctg	gtt	tct	tat	ggc	cac	att	ggg	gtc	acc	672	
Leu	Pro	Phe	Leu	Cys	Ile	Leu	Val	Ser	Tyr	Gly	His	Ile	Gly	Val	Thr		
	210					215					220						
atc	ctc	cag	att	ccc	tct	acc	aag	ggc	ata	tgc	aaa	gcc	ttg	tcc	act	720	
Ile	Leu	Gln	Ile	Pro	Ser	Thr	Lys	Gly	Ile	Cys	Lys	Ala	Leu	Ser	Thr		
225					230				235						240		
tgt	gga	tcc	cac	ctc	tca	gtg	gtg	act	atc	tat	tat	cgg	aca	att	att	768	
Cys	Gly	Ser	His	Leu	Ser	Val	Val	Thr	Ile	Tyr	Tyr	Arg	Thr	Ile	Ile		
				245					250					255			
ggc	ctc	tat	ttt	ctt	ccc	cca	tcc	agc	aac	acc	aat	gac	aag	aac	ata	816	
Gly	Leu	Tyr	Phe	Leu	Pro	Pro	Ser	Ser	Asn	Thr	Asn	Asp	Lys	Asn	Ile		
			260					265					270				
att	gct	tca	gtg	ata	tac	aca	gca	gtc	act	ccc	atg	ttg	aac	cca	ttc	864	
Ile	Ala	Ser	Val	Ile	Tyr	Thr	Ala	Val	Thr	Pro	Met	Leu	Asn	Pro	Phe		
		275					280					285					
att	tac	agt	ctg	aga	aat	aaa	gac	att	aag	gga	gcc	cta	aga	aaa	ctc	912	
Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Ile	Lys	Gly	Ala	Leu	Arg	Lys	Leu		
	290					295					300						
ttg	agt	agg	tca	ggc	gca	gtg	gct	cat	gcc	tgt	aat	ctc	agc	act	ttg	960	
Leu	Ser	Arg	Ser	Gly	Ala	Val	Ala	His	Ala	Cys	Asn	Leu	Ser	Thr	Leu		
305					310					315					320		

gga ggc tga
Gly Gly

969

<210> 76

<211> 322

<212> PRT

<213> Homo Sapiens

<400> 76

Met Ser Pro Glu Asn Gln Ser Ser Val Ser Glu Phe Leu Leu Leu Gly
1 5 10 15

Leu Pro Ile Arg Pro Glu Gln Gln Ala Val Phe Phe Ala Leu Phe Leu
20 25 30

Gly Met Tyr Leu Thr Thr Val Leu Gly Asn Leu Leu Ile Met Leu Leu
35 40 45

Ile Gln Leu Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ser
50 55 60

His Leu Ala Leu Thr Asp Ile Ser Phe Ser Ser Val Thr Val Pro Lys
65 70 75 80

Met Leu Met Asn Met Gln Thr Gln His Leu Ala Val Phe Tyr Lys Gly
85 90 95

Cys Ile Ser Gln Thr Tyr Phe Phe Ile Phe Phe Ala Asp Leu Asp Ser
100 105 110

Phe Leu Ile Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His
115 120 125

Pro Leu His Tyr Ala Thr Ile Met Thr Gln Ser Gln Cys Val Met Leu
130 135 140

Val Ala Gly Ser Trp Val Ile Ala Cys Ala Cys Ala Leu Leu His Thr
145 150 155 160

Leu Leu Leu Ala Gln Leu Ser Phe Cys Ala Asp His Ile Ile Pro His
165 170 175

Tyr Phe Cys Asp Leu Gly Ala Leu Leu Lys Leu Ser Cys Ser Asp Thr
180 185 190

Ser Leu Asn Gln Leu Ala Ile Phe Thr Ala Ala Leu Thr Ala Ile Met
195 200 205

Leu Pro Phe Leu Cys Ile Leu Val Ser Tyr Gly His Ile Gly Val Thr
 210 215 220

Ile Leu Gln Ile Pro Ser Thr Lys Gly Ile Cys Lys Ala Leu Ser Thr
 225 230 235 240

Cys Gly Ser His Leu Ser Val Val Thr Ile Tyr Tyr Arg Thr Ile Ile
 245 250 255

Gly Leu Tyr Phe Leu Pro Pro Ser Ser Asn Thr Asn Asp Lys Asn Ile
 260 265 270

Ile Ala Ser Val Ile Tyr Thr Ala Val Thr Pro Met Leu Asn Pro Phe
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Ile Lys Gly Ala Leu Arg Lys Leu
 290 295 300

Leu Ser Arg Ser Gly Ala Val Ala His Ala Cys Asn Leu Ser Thr Leu
 305 310 315 320

Gly Gly

<210> 77

<211> 972

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(969)

<223>

<400> 77

atg tgg cag aag aat cag acc tct ctg gca gac ttc atc ctt gag ggg 48
 Met Trp Gln Lys Asn Gln Thr Ser Leu Ala Asp Phe Ile Leu Glu Gly
 1 5 10 15

ctc ttc gat gac tcc ctt acc cac ctt ttc ctt ttc tcc ttg acc atg 96
 Leu Phe Asp Asp Ser Leu Thr His Leu Phe Leu Phe Ser Leu Thr Met
 20 25 30

gtg gtc ttc ctt att gcg gtg agt ggc aac acc ctc acc att ctc ctc 144
 Val Val Phe Leu Ile Ala Val Ser Gly Asn Thr Leu Thr Ile Leu Leu
 35 40 45

atc tgc att gat ccc cag ctt cat aca cca atg tat ttc ctg ctc agc Ile Cys Ile Asp Pro Gln Leu His Thr Pro Met Tyr Phe Leu Leu Ser 50 55 60	192
cag ctc tcc ctc atg gat ctg atg cat gtc tcc aca atc atc ctg aag Gln Leu Ser Leu Met Asp Leu Met His Val Ser Thr Ile Ile Leu Lys 65 70 75 80	240
atg gct acc aac tac cta tct ggc aag aaa tct atc tcc ttt gtg ggc Met Ala Thr Asn Tyr Leu Ser Gly Lys Lys Ser Ile Ser Phe Val Gly 85 90 95	288
tgt gca acc cag cac ttc ctc tat ttg tgt cta ggt ggt gct gaa tgt Cys Ala Thr Gln His Phe Leu Tyr Leu Cys Leu Gly Gly Ala Glu Cys 100 105 110	336
ttt ctc tta gct gtc atg tcc tat gac cgc tat gtt gcc atc tgt cat Phe Leu Leu Ala Val Met Ser Tyr Asp Arg Tyr Val Ala Ile Cys His 115 120 125	384
cca ctg cgc tat gct gtg ctc atg aac aag aag gtg gga ctg atg atg Pro Leu Arg Tyr Ala Val Leu Met Asn Lys Lys Val Gly Leu Met Met 130 135 140	432
gct gtc atg tca tgg ttg ggg gca tcc gtg aac tcc cta att cac atg Ala Val Met Ser Trp Leu Gly Ala Ser Val Asn Ser Leu Ile His Met 145 150 155 160	480
gcg atc ttg atg cac ttc cct ttc tgt ggg cct cgg aaa gtc tac cac Ala Ile Leu Met His Phe Pro Phe Cys Gly Pro Arg Lys Val Tyr His 165 170 175	528
ttc tac tgt gag ttc cca gct gtt gtg aag ttg gta tgt ggc gac atc Phe Tyr Cys Glu Phe Pro Ala Val Val Lys Leu Val Cys Gly Asp Ile 180 185 190	576
act gtg tat gag acc aca gtg tac atc agc agc att ctc ctc ctc ctc Thr Val Tyr Glu Thr Thr Val Tyr Ile Ser Ser Ile Leu Leu Leu Leu 195 200 205	624
ccc atc ttc ctg att tct aca tcc tat gtc ttc atc ctt caa agt gtc Pro Ile Phe Leu Ile Ser Thr Ser Tyr Val Phe Ile Leu Gln Ser Val 210 215 220	672
att cag atg cgc tca tct ggg agc aag aga aat gcc ttt gcc act tgt Ile Gln Met Arg Ser Ser Gly Ser Lys Arg Asn Ala Phe Ala Thr Cys 225 230 235 240	720
ggc tcc cac ctc acg gtg gtt tct ctt tgg ttt ggt gcc tgc atc ttc Gly Ser His Leu Thr Val Val Ser Leu Trp Phe Gly Ala Cys Ile Phe 245 250 255	768
tcc tac atg aga ccc agg tcc cag tgc act cta ttg cag aac aaa gtt Ser Tyr Met Arg Pro Arg Ser Gln Cys Thr Leu Leu Gln Asn Lys Val 260 265 270	816
ggt tct gtg ttc tac agc atc att acg ccc aca ttg aat tct ctg att Gly Ser Val Phe Tyr Ser Ile Ile Thr Pro Thr Leu Asn Ser Leu Ile 275 280 285	864
tat act ctc cgg aat aaa gat gta gct aag gct ctg aga aga gtg ctg Tyr Thr Leu Arg Asn Lys Asp Val Ala Lys Ala Leu Arg Arg Val Leu 290 295 300	912
agg aga gat gtt atc acc cag tgc att caa cga ctg caa ttg tgg ttg Arg Arg Asp Val Ile Thr Gln Cys Ile Gln Arg Leu Gln Leu Trp Leu 305 310 315 320	960

ccc cga gtg tag
Pro Arg Val

972

<210> 78

<211> 323

<212> PRT

<213> Homo Sapiens

<400> 78

Met Trp Gln Lys Asn Gln Thr Ser Leu Ala Asp Phe Ile Leu Glu Gly
1 5 10 15

Leu Phe Asp Asp Ser Leu Thr His Leu Phe Leu Phe Ser Leu Thr Met
20 25 30

Val Val Phe Leu Ile Ala Val Ser Gly Asn Thr Leu Thr Ile Leu Leu
35 40 45

Ile Cys Ile Asp Pro Gln Leu His Thr Pro Met Tyr Phe Leu Leu Ser
50 55 60

Gln Leu Ser Leu Met Asp Leu Met His Val Ser Thr Ile Ile Leu Lys
65 70 75 80

Met Ala Thr Asn Tyr Leu Ser Gly Lys Lys Ser Ile Ser Phe Val Gly
85 90 95

Cys Ala Thr Gln His Phe Leu Tyr Leu Cys Leu Gly Gly Ala Glu Cys
100 105 110

Phe Leu Leu Ala Val Met Ser Tyr Asp Arg Tyr Val Ala Ile Cys His
115 120 125

Pro Leu Arg Tyr Ala Val Leu Met Asn Lys Lys Val Gly Leu Met Met
130 135 140

Ala Val Met Ser Trp Leu Gly Ala Ser Val Asn Ser Leu Ile His Met
145 150 155 160

Ala Ile Leu Met His Phe Pro Phe Cys Gly Pro Arg Lys Val Tyr His
165 170 175

Phe Tyr Cys Glu Phe Pro Ala Val Val Lys Leu Val Cys Gly Asp Ile
180 185 190

Thr Val Tyr Glu Thr Thr Val Tyr Ile Ser Ser Ile Leu Leu Leu Leu

195	200	205
Pro Ile Phe Leu Ile Ser Thr Ser Tyr Val Phe Ile Leu Gln Ser Val 210 215 220		
Ile Gln Met Arg Ser Ser Gly Ser Lys Arg Asn Ala Phe Ala Thr Cys 225 230 235 240		
Gly Ser His Leu Thr Val Val Ser Leu Trp Phe Gly Ala Cys Ile Phe 245 250 255		
Ser Tyr Met Arg Pro Arg Ser Gln Cys Thr Leu Leu Gln Asn Lys Val 260 265 270		
Gly Ser Val Phe Tyr Ser Ile Ile Thr Pro Thr Leu Asn Ser Leu Ile 275 280 285		
Tyr Thr Leu Arg Asn Lys Asp Val Ala Lys Ala Leu Arg Arg Val Leu 290 295 300		
Arg Arg Asp Val Ile Thr Gln Cys Ile Gln Arg Leu Gln Leu Trp Leu 305 310 315 320		

Pro Arg Val

<210> 79
 <211> 969
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(966)
 <223>

<400> 79	
atg aat tcc ctg aag cac ggg aat cac acc gct ctg acg ggg ttc atc Met Asn Ser Leu Lys His Gly Asn His Thr Ala Leu Thr Gly Phe Ile 1 5 10 15	48
cta ttg ggc tta aca gat gat cca atc ctt cga gtc atc ctc ttc atg Leu Leu Gly Leu Thr Asp Asp Pro Ile Leu Arg Val Ile Leu Phe Met 20 25 30	96
atc atc cta tct ggt aat ctc agc ata att att ctt atc aga att tct Ile Ile Leu Ser Gly Asn Leu Ser Ile Ile Ile Leu Ile Arg Ile Ser 35 40 45	144

tct cag ctc cat cat cct atg tat ttc ttt ctg agc cac ttg gct ttt	192
Ser Gln Leu His His Pro Met Tyr Phe Phe Leu Ser His Leu Ala Phe	
50 55 60	
gct gac atg gcc tat tca tct tct gtc aca ccc aac atg ctt gta aac	240
Ala Asp Met Ala Tyr Ser Ser Ser Val Thr Pro Asn Met Leu Val Asn	
65 70 75 80	
ttc ctg gtg gag aga aat aca gtc tcc tac ctt gga tgt gcc atc cag	288
Phe Leu Val Glu Arg Asn Thr Val Ser Tyr Leu Gly Cys Ala Ile Gln	
85 90 95	
ctt ggt tca gcg gct ttc ttt gca aca gtc gaa tgc gtc ctt ctg gct	336
Leu Gly Ser Ala Ala Phe Phe Ala Thr Val Glu Cys Val Leu Leu Ala	
100 105 110	
gcc atg gcc tat gac cgc ttt gtg gca att tgc agt cca ctg ctt tat	384
Ala Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Ser Pro Leu Leu Tyr	
115 120 125	
tca acc aaa atg tcc aca caa gtc agt gtc cag cta ctc tta gta gtt	432
Ser Thr Lys Met Ser Thr Gln Val Ser Val Gln Leu Leu Leu Val Val	
130 135 140	
tac ata gct ggt ttt ctc att gct gtc tcc tat act act tcc ttc tat	480
Tyr Ile Ala Gly Phe Leu Ile Ala Val Ser Tyr Thr Thr Ser Phe Tyr	
145 150 155 160	
ttt tta ctc ttc tgt gga cca aat caa gtc aat cat ttt ttc tgt gat	528
Phe Leu Leu Phe Cys Gly Pro Asn Gln Val Asn His Phe Phe Cys Asp	
165 170 175	
ttc gct ccc tta ctt gaa ctc tcc tgt tct gat atc agt gtc tcc aca	576
Phe Ala Pro Leu Leu Glu Leu Ser Cys Ser Asp Ile Ser Val Ser Thr	
180 185 190	
gtt gtt ctc tca ttt tct tct gga tcc atc att gtg gtc act gtg tgt	624
Val Val Leu Ser Phe Ser Ser Gly Ser Ile Ile Val Val Thr Val Cys	
195 200 205	
gtc ata gcc gtc tgc tac atc tat atc ctc atc acc atc ctg aag atg	672
Val Ile Ala Val Cys Tyr Ile Tyr Ile Leu Ile Thr Ile Leu Lys Met	
210 215 220	
cgc tcc act gag ggg cac cac aag gct ttc tcc acg tgc act tcc cac	720
Arg Ser Thr Glu Gly His His Lys Ala Phe Ser Thr Cys Thr Ser His	
225 230 235 240	
ctc act gtg gtt acc ctg ttc tat ggg acc att acc ttc att tat gtg	768
Leu Thr Val Val Thr Leu Phe Tyr Gly Thr Ile Thr Phe Ile Tyr Val	
245 250 255	
atg ccc aat ttt agc tac tca act gac cag aac aag gtg gtg tct gtg	816
Met Pro Asn Phe Ser Tyr Ser Thr Asp Gln Asn Lys Val Val Ser Val	
260 265 270	
ttg tac aca gtg gtg att ccc atg ttg aac ccc ctg atc tac agc ctc	864
Leu Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu	
275 280 285	
agg aac aag gag att aag ggg gct ctg aag aga gag ctt gtt aga aaa	912
Arg Asn Lys Glu Ile Lys Gly Ala Leu Lys Arg Glu Leu Val Arg Lys	
290 295 300	
ata ctt tct cat gat gct tgt tat ttt agt aga act tca aat aat gat	960
Ile Leu Ser His Asp Ala Cys Tyr Phe Ser Arg Thr Ser Asn Asn Asp	
305 310 315 320	

att aca tag
Ile Thr

969

<210> 80

<211> 322

<212> PRT

<213> Homo Sapiens

<400> 80

Met Asn Ser Leu Lys His Gly Asn His Thr Ala Leu Thr Gly Phe Ile
1 5 10 15

Leu Leu Gly Leu Thr Asp Asp Pro Ile Leu Arg Val Ile Leu Phe Met
20 25 30

Ile Ile Leu Ser Gly Asn Leu Ser Ile Ile Ile Leu Ile Arg Ile Ser
35 40 45

Ser Gln Leu His His Pro Met Tyr Phe Phe Leu Ser His Leu Ala Phe
50 55 60

Ala Asp Met Ala Tyr Ser Ser Ser Val Thr Pro Asn Met Leu Val Asn
65 70 75 80

Phe Leu Val Glu Arg Asn Thr Val Ser Tyr Leu Gly Cys Ala Ile Gln
85 90 95

Leu Gly Ser Ala Ala Phe Phe Ala Thr Val Glu Cys Val Leu Leu Ala
100 105 110

Ala Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Ser Pro Leu Leu Tyr
115 120 125

Ser Thr Lys Met Ser Thr Gln Val Ser Val Gln Leu Leu Leu Val Val
130 135 140

Tyr Ile Ala Gly Phe Leu Ile Ala Val Ser Tyr Thr Thr Ser Phe Tyr
145 150 155 160

Phe Leu Leu Phe Cys Gly Pro Asn Gln Val Asn His Phe Phe Cys Asp
165 170 175

Phe Ala Pro Leu Leu Glu Leu Ser Cys Ser Asp Ile Ser Val Ser Thr
180 185 190

Val Val Leu Ser Phe Ser Ser Gly Ser Ile Ile Val Val Thr Val Cys

195	200	205
Val Ile Ala Val Cys Tyr Ile Tyr Ile Leu Ile Thr Ile Leu Lys Met 210 215 220		
Arg Ser Thr Glu Gly His His Lys Ala Phe Ser Thr Cys Thr Ser His 225 230 235 240		
Leu Thr Val Val Thr Leu Phe Tyr Gly Thr Ile Thr Phe Ile Tyr Val 245 250 255		
Met Pro Asn Phe Ser Tyr Ser Thr Asp Gln Asn Lys Val Val Ser Val 260 265 270		
Leu Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu 275 280 285		
Arg Asn Lys Glu Ile Lys Gly Ala Leu Lys Arg Glu Leu Val Arg Lys 290 295 300		
Ile Leu Ser His Asp Ala Cys Tyr Phe Ser Arg Thr Ser Asn Asn Asp 305 310 315 320		

Ile Thr

<210> 81

<211> 936

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(933)

<223>

<400> 81

atg ggg act gga aat gac acc act gtg gta gag ttt act ctt ttg ggg	48
Met Gly Thr Gly Asn Asp Thr Thr Val Val Glu Phe Thr Leu Leu Gly	
1 5 10 15	

tta tct gag gat act aca gtt tgt gct att tta ttt ctt gtg ttt cta	96
Leu Ser Glu Asp Thr Thr Val Cys Ala Ile Leu Phe Leu Val Phe Leu	
20 25 30	

gga att tat gtt gtc acc tta atg ggt aat atc agc ata att gta ttg	144
Gly Ile Tyr Val Val Thr Leu Met Gly Asn Ile Ser Ile Ile Val Leu	
35 40 45	

305

310

<210> 82

<211> 311

<212> PRT

<213> Homo Sapiens

<400> 82

Met Gly Thr Gly Asn Asp Thr Thr Val Val Glu Phe Thr Leu Leu Gly
 1 5 10 15

Leu Ser Glu Asp Thr Thr Val Cys Ala Ile Leu Phe Leu Val Phe Leu
 20 25 30

Gly Ile Tyr Val Val Thr Leu Met Gly Asn Ile Ser Ile Ile Val Leu
 35 40 45

Ile Arg Arg Ser His His Leu His Thr Pro Met Tyr Ile Phe Leu Cys
 50 55 60

His Leu Ala Phe Val Asp Ile Gly Tyr Ser Ser Ser Val Thr Pro Val
 65 70 75 80

Met Leu Met Ser Phe Leu Arg Lys Glu Thr Ser Leu Pro Val Ala Gly
 85 90 95

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

Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Ser
 115 120 125

Pro Leu Leu Tyr Ser Thr Cys Met Ser Pro Gly Val Cys Ile Ile Leu
 130 135 140

Val Gly Met Ser Tyr Leu Gly Gly Cys Val Asn Ala Cys Thr Phe Ile
 145 150 155 160

Gly Cys Leu Leu Arg Leu Ser Phe Cys Gly Pro Asn Lys Val Asn His
 165 170 175

Phe Phe Cys Asp Tyr Ser Pro Leu Leu Lys Leu Ala Cys Ser His Asp
 180 185 190

Phe Thr Phe Glu Ile Ile Pro Ala Ile Ser Cys Gly Ser Ile Ile Val
 195 200 205

Ala Thr Val Cys Val Ile Ala Ile Ser Tyr Ile Tyr Ile Leu Ile Thr
210 215 220

Ile Leu Lys Met His Ser Thr Lys Gly Arg His Lys Ala Phe Ser Thr
225 230 235 240

Cys Thr Ser His Leu Ser Ala Val Thr Val Leu Tyr Gly Thr Ile Thr
245 250 255

Phe Ile Tyr Val Met Pro Lys Ser Ser Tyr Ser Thr Asp Gln Asn Lys
260 265 270

Val Val Ser Val Leu Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu
275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Gly Ala Leu Lys Arg Glu
290 295 300

Leu Arg Ile Lys Ile Phe Ser
305 310

<210> 83
<211> 1032

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(1029)

<223>

<400> 83	
atg gct ctt tat ttt tca ctc ata ctc cat ggt atg agt gat ctt ttc	48
Met Ala Leu Tyr Phe Ser Leu Ile Leu His Gly Met Ser Asp Leu Phe	
1 5 10 15	
ttt ctc tct aca ggt cat cca aga gcg agc tgt agg atg gag gcc atg	96
Phe Leu Ser Thr Gly His Pro Arg Ala Ser Cys Arg Met Glu Ala Met	
20 25 30	
aaa cta tta aat caa tct caa gtg tca gaa ttc att ttg ctg gga ctg	144
Lys Leu Leu Asn Gln Ser Gln Val Ser Glu Phe Ile Leu Leu Gly Leu	
35 40 45	
acc agc tcc cag gat gta gag ttt ctt ctc ttt gcc ctc ttc tcg gtt	192
Thr Ser Ser Gln Asp Val Glu Phe Leu Leu Phe Ala Leu Phe Ser Val	
50 55 60	
atc tat gtg gtc aca gtt ttg ggt aac ctt ctt att ata gtc aca gtg	240
Ile Tyr Val Val Thr Val Leu Gly Asn Leu Leu Ile Ile Val Thr Val	
65 70 75 80	

ttt aac acc cct aac ctg aat act ccc atg tat ttt ctc ctt ggt aat	288
Phe Asn Thr Pro Asn Leu Asn Thr Pro Met Tyr Phe Leu Leu Gly Asn	
85 90 95	
ctc tct ttt gta gat atg acc ctt gct tct ttt gcc acc cct aag gtg	336
Leu Ser Phe Val Asp Met Thr Leu Ala Ser Phe Ala Thr Pro Lys Val	
100 105 110	
att ctg aac ttg tta aaa aag cag aag gta att tct ttt gct ggg tgc	384
Ile Leu Asn Leu Leu Lys Lys Gln Lys Val Ile Ser Phe Ala Gly Cys	
115 120 125	
ttc act cag ata ttt ctc ctt cac tta ctg ggt ggg gtt gaa atg gta	432
Phe Thr Gln Ile Phe Leu Leu His Leu Leu Gly Gly Val Glu Met Val	
130 135 140	
ctg ttg gtc tcc atg gct ttt gac aga tat gtg gcc att tgt aag ccc	480
Leu Leu Val Ser Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Lys Pro	
145 150 155 160	
cta cac tac atg acc atc atg aac aag aag gta tgt gtt ttg ctt gta	528
Leu His Tyr Met Thr Ile Met Asn Lys Lys Val Cys Val Leu Leu Val	
165 170 175	
gtg acc tca tgg ctc ttg ggt ctc ctt cac tca ggg ttt cag ata cca	576
Val Thr Ser Trp Leu Leu Gly Leu Leu His Ser Gly Phe Gln Ile Pro	
180 185 190	
ttt gct gtg aac ttg ccc ttt tgt ggt ccc aat gtg gta gac agc att	624
Phe Ala Val Asn Leu Pro Phe Cys Gly Pro Asn Val Val Asp Ser Ile	
195 200 205	
ttt tgt gac ctc cct ttg gtt act aag ctt gcc tgt ata gac ata tat	672
Phe Cys Asp Leu Pro Leu Val Thr Lys Leu Ala Cys Ile Asp Ile Tyr	
210 215 220	
ttt gta cag gta gtc att gtt gcc aac agt ggc ata atc tcc ctg agc	720
Phe Val Gln Val Val Ile Val Ala Asn Ser Gly Ile Ile Ser Leu Ser	
225 230 235 240	
tgt ttc att att ttg ctt atc tcc tac agt ctg atc ctc ata acc att	768
Cys Phe Ile Ile Leu Leu Ile Ser Tyr Ser Leu Ile Leu Ile Thr Ile	
245 250 255	
aag aac cac tct cct act ggg caa tct aaa gcc cgt tcc act ttg act	816
Lys Asn His Ser Pro Thr Gly Gln Ser Lys Ala Arg Ser Thr Leu Thr	
260 265 270	
gct cac atc aca gtg gtg att ctc ttc ttt ggc cca tgc atc ttt atc	864
Ala His Ile Thr Val Val Ile Leu Phe Phe Gly Pro Cys Ile Phe Ile	
275 280 285	
tac att tgg ccc ttc ggc aac cac tct gta gat aag ttc ctt gct gtg	912
Tyr Ile Trp Pro Phe Gly Asn His Ser Val Asp Lys Phe Leu Ala Val	
290 295 300	
ttt tat acc atc atc act cct atc ttg aat cca att atc tat act ctg	960
Phe Tyr Thr Ile Ile Thr Pro Ile Leu Asn Pro Ile Ile Tyr Thr Leu	
305 310 315 320	
aga aac aaa gaa atg aag ata tcc atg aaa aaa ctc tgg aga gct ttt	1008
Arg Asn Lys Glu Met Lys Ile Ser Met Lys Lys Leu Trp Arg Ala Phe	
325 330 335	
gtg aat tct aga gaa gat act tag	1032
Val Asn Ser Arg Glu Asp Thr	

340

<210> 84

<211> 343

<212> PRT

<213> Homo Sapiens

<400> 84

Met Ala Leu Tyr Phe Ser Leu Ile Leu His Gly Met Ser Asp Leu Phe
 1 5 10 15

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

Lys Leu Leu Asn Gln Ser Gln Val Ser Glu Phe Ile Leu Leu Gly Leu
 35 40 45

Thr Ser Ser Gln Asp Val Glu Phe Leu Leu Phe Ala Leu Phe Ser Val
 50 55 60

Ile Tyr Val Val Thr Val Leu Gly Asn Leu Leu Ile Ile Val Thr Val
 65 70 75 80

Phe Asn Thr Pro Asn Leu Asn Thr Pro Met Tyr Phe Leu Leu Gly Asn
 85 90 95

Leu Ser Phe Val Asp Met Thr Leu Ala Ser Phe Ala Thr Pro Lys Val
 100 105 110

Ile Leu Asn Leu Leu Lys Lys Gln Lys Val Ile Ser Phe Ala Gly Cys
 115 120 125

Phe Thr Gln Ile Phe Leu Leu His Leu Leu Gly Gly Val Glu Met Val
 130 135 140

Leu Leu Val Ser Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Lys Pro
 145 150 155 160

Leu His Tyr Met Thr Ile Met Asn Lys Lys Val Cys Val Leu Leu Val
 165 170 175

Val Thr Ser Trp Leu Leu Gly Leu Leu His Ser Gly Phe Gln Ile Pro
 180 185 190

Phe Ala Val Asn Leu Pro Phe Cys Gly Pro Asn Val Val Asp Ser Ile
 195 200 205

Phe Cys Asp Leu Pro Leu Val Thr Lys Leu Ala Cys Ile Asp Ile Tyr
 210 215 220

Phe Val Gln Val Val Ile Val Ala Asn Ser Gly Ile Ile Ser Leu Ser
 225 230 235 240

Cys Phe Ile Ile Leu Leu Ile Ser Tyr Ser Leu Ile Leu Ile Thr Ile
 245 250 255

Lys Asn His Ser Pro Thr Gly Gln Ser Lys Ala Arg Ser Thr Leu Thr
 260 265 270

Ala His Ile Thr Val Val Ile Leu Phe Phe Gly Pro Cys Ile Phe Ile
 275 280 285

Tyr Ile Trp Pro Phe Gly Asn His Ser Val Asp Lys Phe Leu Ala Val
 290 295 300

Phe Tyr Thr Ile Ile Thr Pro Ile Leu Asn Pro Ile Ile Tyr Thr Leu
 305 310 315 320

Arg Asn Lys Glu Met Lys Ile Ser Met Lys Lys Leu Trp Arg Ala Phe
 325 330 335

Val Asn Ser Arg Glu Asp Thr
 340

<210> 85

<211> 939

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(936)

<223>

<400> 85

atg gat gaa gcc aat cac tct gtg gtc tct gag ttt gtg ttc ctg gga 48
 Met Asp Glu Ala Asn His Ser Val Val Ser Glu Phe Val Phe Leu Gly
 1 5 10 15

ctc tct gac tcg cgg aag atc cag ctc ctc ctc ttc ctc ttt ttc tca 96
 Leu Ser Asp Ser Arg Lys Ile Gln Leu Leu Leu Phe Leu Phe Phe Ser
 20 25 30

gtg ttc tat gta tca agc ctg atg gga aat ctc ctc att gtg cta act 144
 Val Phe Tyr Val Ser Ser Leu Met Gly Asn Leu Leu Ile Val Leu Thr

35					40					45						
gtg Val 50	acc Thr	tct Ser	gac Asp	cct Pro	cgt Arg	tta Leu 55	cag Gln	tcc Ser	ccc Pro	atg Met	tac Tyr 60	ttc Phe	ctg Leu	ctg Leu	gcc Ala	192
aac Asn 65	ctt Leu	tcc Ser	atc Ile	atc Ile	aat Asn 70	ttg Leu	gta Val	ttt Phe	tgt Cys	tcc Ser 75	tcc Ser	aca Thr	gct Ala	ccc Pro	aag Lys 80	240
atg Met	att Ile	tat Tyr	gac Asp 85	ctt Leu	ttc Phe	agg Arg	aag Lys	cac His	aag Lys 90	acc Thr	atc Ile	tct Ser	ttt Phe	ggg Gly 95	ggc Gly	288
tgt Cys	gta Val	gtt Val 100	cag Gln	atc Ile	ttc Phe	ttt Phe	atc Ile	cat His 105	gca Ala	gtt Val	ggg Gly	gga Gly	act Thr 110	gag Glu	atg Met	336
gtg Val	ctg Leu	ctc Leu 115	ata Ile	gcc Ala	atg Met	gct Ala	ttt Phe 120	gac Asp	cga Arg	tat Tyr	gtg Val	gcc Ala 125	ata Ile	tgt Cys	aag Lys	384
cct Pro 130	ctc Leu	cac His	tac Tyr	ctg Leu	acc Thr	atc Ile 135	atg Met	aac Asn	cca Pro	caa Gln	agg Arg 140	tgc Cys	att Ile	ttg Leu	ttt Phe	432
tta Leu 145	gtc Val	att Ile	tcc Ser	tgg Trp 150	att Ile	ata Ile	ggc Gly	att Ile	att Ile	cac His 155	tca Ser	gtg Val	att Ile	cag Gln	ttg Leu 160	480
gct Ala	ttt Phe	gtt Val	gta Val 165	gac Asp	ctg Leu	ctg Leu	ttc Phe	tgt Cys	ggc Gly 170	cct Pro	aat Asn	gaa Glu	tta Leu	gat Asp 175	agt Ser	528
ttc Phe	ttt Phe	tgt Cys 180	gat Asp	ctt Leu	cct Pro	cga Arg	ttt Phe	atc Ile 185	aaa Lys	ctg Leu	gct Ala	tgc Cys	ata Ile 190	gag Glu	acc Thr	576
tac Tyr	aca Thr 195	ttg Leu	gga Gly	ttc Phe	atg Met	gtt Val 200	act Thr	gcc Ala	aat Asn	agt Ser	gga Gly	ttt Phe 205	att Ile	tct Ser	ctg Leu	624
gct Ala 210	tct Ser	ttt Phe	tta Leu	att Ile	ctc Leu	ata Ile 215	atc Ile	tct Ser	tac Tyr	atc Ile	ttt Phe 220	att Ile	ttg Leu	gtg Val	act Thr	672
gtt Val 225	cag Gln	aaa Lys	aaa Lys	tct Ser	tca Ser 230	ggc Gly	ggc Gly	ata Ile	ttc Phe	aag Lys 235	gct Ala	ttc Phe	tct Ser	atg Met	ctg Leu 240	720
tca Ser	gct Ala	cat His	gtc Val 245	att Ile	gtg Val	gtg Val	gtt Val	ttg Leu	gtc Val 250	ttt Phe	ggg Gly	cca Pro	tta Leu	atc Ile 255	ttt Phe	768
ttc Phe	tat Tyr	att Ile 260	ttt Phe	cca Pro	ttt Phe	ccc Pro	aca Thr 265	tca Ser	cat His	ctt Leu	gat Asp	aaa Lys 270	ttc Phe	ctt Leu	gcc Ala	816
atc Ile	ttt Phe	gat Asp 275	gca Ala	gtt Val	atc Ile	act Thr	ccc Pro 280	gtt Val	ttg Leu	aat Asn	cca Pro	gtc Val 285	atc Ile	tat Tyr	act Thr	864
ttt Phe 290	aga Arg	aat Asn	aaa Lys	gag Glu	atg Met	atg Met 295	gtg Val	gca Ala	atg Met	aga Arg	aga Arg 300	cga Arg	tgc Cys	tct Ser	cag Gln	912
ttt	gtg	aat	tac	aqt	aaa	atc	ttt	taa								939

Phe Val Asn Tyr Ser Lys Ile Phe
305 310

<210> 86

<211> 312

<212> PRT

<213> Homo Sapiens

<400> 86

Met Asp Glu Ala Asn His Ser Val Val Ser Glu Phe Val Phe Leu Gly
1 5 10 15

Leu Ser Asp Ser Arg Lys Ile Gln Leu Leu Leu Phe Leu Phe Phe Ser
20 25 30

Val Phe Tyr Val Ser Ser Leu Met Gly Asn Leu Leu Ile Val Leu Thr
35 40 45

Val Thr Ser Asp Pro Arg Leu Gln Ser Pro Met Tyr Phe Leu Leu Ala
50 55 60

Asn Leu Ser Ile Ile Asn Leu Val Phe Cys Ser Ser Thr Ala Pro Lys
65 70 75 80

Met Ile Tyr Asp Leu Phe Arg Lys His Lys Thr Ile Ser Phe Gly Gly
85 90 95

Cys Val Val Gln Ile Phe Phe Ile His Ala Val Gly Gly Thr Glu Met
100 105 110

Val Leu Leu Ile Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Lys
115 120 125

Pro Leu His Tyr Leu Thr Ile Met Asn Pro Gln Arg Cys Ile Leu Phe
130 135 140

Leu Val Ile Ser Trp Ile Ile Gly Ile Ile His Ser Val Ile Gln Leu
145 150 155 160

Ala Phe Val Val Asp Leu Leu Phe Cys Gly Pro Asn Glu Leu Asp Ser
165 170 175

Phe Phe Cys Asp Leu Pro Arg Phe Ile Lys Leu Ala Cys Ile Glu Thr
180 185 190

Tyr Thr Leu Gly Phe Met Val Thr Ala Asn Ser Gly Phe Ile Ser Leu
195 200 205

Ala Ser Phe Leu Ile Leu Ile Ile Ser Tyr Ile Phe Ile Leu Val Thr
 210 215 220

Val Gln Lys Lys Ser Ser Gly Gly Ile Phe Lys Ala Phe Ser Met Leu
 225 230 235 240

Ser Ala His Val Ile Val Val Val Leu Val Phe Gly Pro Leu Ile Phe
 245 250 255

Phe Tyr Ile Phe Pro Phe Pro Thr Ser His Leu Asp Lys Phe Leu Ala
 260 265 270

Ile Phe Asp Ala Val Ile Thr Pro Val Leu Asn Pro Val Ile Tyr Thr
 275 280 285

Phe Arg Asn Lys Glu Met Met Val Ala Met Arg Arg Arg Cys Ser Gln
 290 295 300

Phe Val Asn Tyr Ser Lys Ile Phe
 305 310

<210> 87
 <211> 978

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(975)

<223>

<400> 87
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 1 5 10 15
 atg gaa gag gaa aat gca aca ttg ctg aca gag ttt gtt ctc aca gga 96
 Met Glu Glu Glu Asn Ala Thr Leu Leu Thr Glu Phe Val Leu Thr Gly
 20 25 30
 ttt tta cat caa cct gac tgt aaa ata ccg ctc ttc ctg gca ttc ttg 144
 Phe Leu His Gln Pro Asp Cys Lys Ile Pro Leu Phe Leu Ala Phe Leu
 35 40 45
 gta ata tat ctc atc acc atc atg ggg aat ctt ggt cta att gtt ctc 192
 Val Ile Tyr Leu Ile Thr Ile Met Gly Asn Leu Gly Leu Ile Val Leu
 50 55 60
 atc tgg aaa gac cct cac ctt cat atc cca atg tac tta ttc ctt ggg 240
 Ile Trp Lys Asp Pro His Leu His Ile Pro Met Tyr Leu Phe Leu Gly

65	70	75	80	
agt tta gcc ttt gtg gat gct tcg tta tca tcc aca gtg act ccg aag				288
Ser Leu Ala Phe Val Asp Ala Ser Leu Ser Ser Thr Val Thr Pro Lys	85	90	95	
atg ctg atc aac ttc tta gct aag agt aag atg ata tct ctc tct gaa				336
Met Leu Ile Asn Phe Leu Ala Lys Ser Lys Met Ile Ser Leu Ser Glu	100	105	110	
tgc atg gta caa ttt ttt tcc ctt gta acc act gta acc aca gaa tgt				384
Cys Met Val Gln Phe Phe Ser Leu Val Thr Thr Val Thr Thr Glu Cys	115	120	125	
ttt ctc ttg gca aca atg gca tat gat cgc tat gta gcc att tgc aaa				432
Phe Leu Leu Ala Thr Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys	130	135	140	
gct tta ctt tat cca gtc att atg acc aat gaa cta tgc att cag cta				480
Ala Leu Leu Tyr Pro Val Ile Met Thr Asn Glu Leu Cys Ile Gln Leu	145	150	155	160
tta gtc ttg tca ttt ata ggt ggc ctt ctt cat gct tta atc cat gaa				528
Leu Val Leu Ser Phe Ile Gly Gly Leu Leu His Ala Leu Ile His Glu	165	170	175	
gct ttt tca ttc aga tta acc ttc tgt aat tcc aac ata ata caa cac				576
Ala Phe Ser Phe Arg Leu Thr Phe Cys Asn Ser Asn Ile Ile Gln His	180	185	190	
ttt tac tgt gac att atc cca ttg tta aag att tcc tgt act gat tcc				624
Phe Tyr Cys Asp Ile Ile Pro Leu Leu Lys Ile Ser Cys Thr Asp Ser	195	200	205	
tct att aac ttt cta atg gtt ttt att ttc gca ggt tct gtt caa gtt				672
Ser Ile Asn Phe Leu Met Val Phe Ile Phe Ala Gly Ser Val Gln Val	210	215	220	
ttt acc att gga act att ctt ata tct tat aca att atc ctc ttt aca				720
Phe Thr Ile Gly Thr Ile Leu Ile Ser Tyr Thr Ile Ile Leu Phe Thr	225	230	235	240
atc tta gaa aag aag tct atc aaa ggg ata cga aaa gct gtc tcc acc				768
Ile Leu Glu Lys Lys Ser Ile Lys Gly Ile Arg Lys Ala Val Ser Thr	245	250	255	
tgt ggg gct cat ctc tta tct gta tct tta tac tat ggc ccc ctc acc				816
Cys Gly Ala His Leu Leu Ser Val Ser Leu Tyr Tyr Gly Pro Leu Thr	260	265	270	
ttc aaa tat ctg ggc tct gca tct ccg caa gca gat gac caa gat atg				864
Phe Lys Tyr Leu Gly Ser Ala Ser Pro Gln Ala Asp Asp Gln Asp Met	275	280	285	
atg gag tct cta ttt tac act gtc ata gtt cct tta tta aat ccc atg				912
Met Glu Ser Leu Phe Tyr Thr Val Ile Val Pro Leu Leu Asn Pro Met	290	295	300	
atc tac agc ctg aga aac aag caa gta ata gct tca ttc aca aaa atg				960
Ile Tyr Ser Leu Arg Asn Lys Gln Val Ile Ala Ser Phe Thr Lys Met	305	310	315	320
ttc aaa agc aat gtt tag				978
Phe Lys Ser Asn Val	325			

<210> 88

<211> 325

<212> PRT

<213> Homo Sapiens

<400> 88

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			20					25					30		

Phe	Leu	His	Gln	Pro	Asp	Cys	Lys	Ile	Pro	Leu	Phe	Leu	Ala	Phe	Leu
		35					40					45			

Val	Ile	Tyr	Leu	Ile	Thr	Ile	Met	Gly	Asn	Leu	Gly	Leu	Ile	Val	Leu
	50					55					60				

Ile	Trp	Lys	Asp	Pro	His	Leu	His	Ile	Pro	Met	Tyr	Leu	Phe	Leu	Gly
65					70					75					80

Ser	Leu	Ala	Phe	Val	Asp	Ala	Ser	Leu	Ser	Ser	Thr	Val	Thr	Pro	Lys
				85					90					95	

Met	Leu	Ile	Asn	Phe	Leu	Ala	Lys	Ser	Lys	Met	Ile	Ser	Leu	Ser	Glu
			100					105					110		

Cys	Met	Val	Gln	Phe	Phe	Ser	Leu	Val	Thr	Thr	Val	Thr	Thr	Glu	Cys
		115					120					125			

Phe	Leu	Leu	Ala	Thr	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Lys
	130					135					140				

Ala	Leu	Leu	Tyr	Pro	Val	Ile	Met	Thr	Asn	Glu	Leu	Cys	Ile	Gln	Leu
145					150					155					160

Leu	Val	Leu	Ser	Phe	Ile	Gly	Gly	Leu	Leu	His	Ala	Leu	Ile	His	Glu
				165					170					175	

Ala	Phe	Ser	Phe	Arg	Leu	Thr	Phe	Cys	Asn	Ser	Asn	Ile	Ile	Gln	His
			180					185					190		

Phe	Tyr	Cys	Asp	Ile	Ile	Pro	Leu	Leu	Lys	Ile	Ser	Cys	Thr	Asp	Ser
		195					200					205			

Ser	Ile	Asn	Phe	Leu	Met	Val	Phe	Ile	Phe	Ala	Gly	Ser	Val	Gln	Val
	210					215					220				

Phe Thr Ile Gly Thr Ile Leu Ile Ser Tyr Thr Ile Ile Leu Phe Thr
225 230 235 240

Ile Leu Glu Lys Lys Ser Ile Lys Gly Ile Arg Lys Ala Val Ser Thr
245 250 255

Cys Gly Ala His Leu Leu Ser Val Ser Leu Tyr Tyr Gly Pro Leu Thr
260 265 270

Phe Lys Tyr Leu Gly Ser Ala Ser Pro Gln Ala Asp Asp Gln Asp Met
275 280 285

Met Glu Ser Leu Phe Tyr Thr Val Ile Val Pro Leu Leu Asn Pro Met
290 295 300

Ile Tyr Ser Leu Arg Asn Lys Gln Val Ile Ala Ser Phe Thr Lys Met
305 310 315 320

Phe Lys Ser Asn Val
325

<210> 89

<211> 885

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(885)

<223>

<400> 89

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Met Gln Thr Asp Phe Val Leu Leu Cys Phe Arg Gln Asn Pro Gln Glu
1 5 10 15

ctg aaa gta ctt ttt gtt atg ttc ttg ctc ttc tac att ttg acc atg 96
Leu Lys Val Leu Phe Val Met Phe Leu Leu Phe Tyr Ile Leu Thr Met
20 25 30

gtg ggc aac ctg ctc att gta gtg acc gta act gtc agt gag acc ctg 144
Val Gly Asn Leu Leu Ile Val Val Thr Val Thr Val Ser Glu Thr Leu
35 40 45

ggc tca cca atg tcc ttc ttt ctt gct ggc tta aca ttt ata gat atc 192
Gly Ser Pro Met Ser Phe Phe Leu Ala Gly Leu Thr Phe Ile Asp Ile
50 55 60

att tat tct tca tcc att tcc ccc aga ttg att tca gac ttg ttc ttt 240

Ile 65	Tyr	Ser	Ser	Ser	Ile 70	Ser	Pro	Arg	Leu	Ile 75	Ser	Asp	Leu	Phe	Phe 80	
ggg Gly	aat Asn	aat Asn	tcc Ser	ata Ile	tcc Ser	ttc Phe	caa Gln	tct Ser	ttc Phe	atg Met	gcc Ala	cag Gln	ctc Leu	ttt Phe	atc Ile	288
gag Glu	cac His	ctt Leu	ttt Phe	ggt Gly	ggg Gly	tca Ser	gag Glu	gtc Val	ttt Phe	ctc Leu	ctg Leu	ttg Leu	gtg Val	atg Met	gcc Ala	336
tat Tyr	gac Asp	cgc Arg	tat Tyr	gtg Val	gcc Ala	atc Ile	tgt Cys	aag Lys	ccc Pro	ttg Leu	cat His	tat Tyr	ttg Leu	gtt Val	atc Ile	384
atg Met	aga Arg	caa Gln	tgg Trp	gtg Val	tgt Cys	gtt Val	ttg Leu	ctg Leu	ctg Leu	gta Val	gtg Val	tcc Ser	tgg Trp	gtt Val	gga Gly	432
gga Gly	ttt Phe	ctg Leu	caa Gln	tca Ser	gta Val	ttt Phe	caa Gln	ctt Leu	agc Ser	att Ile	att Ile	tat Tyr	ggg Gly	ctc Leu	cca Pro	480
ttc Phe	tgt Cys	ggc Gly	ccc Pro	aat Asn	gtc Val	att Ile	gat Asp	cat His	ttt Phe	ttc Phe	tgt Cys	gac Asp	atg Met	tat Tyr	ccc Pro	528
tta Leu	ttg Leu	aaa Lys	ctg Leu	gcc Ala	tgc Cys	act Thr	gac Asp	acc Thr	cat His	gtt Val	att Ile	ggc Gly	ctc Leu	tta Leu	gtg Val	576
gtg Val	gcc Ala	aat Asn	gga Gly	gga Gly	ctg Leu	tct Ser	tgc Cys	act Thr	att Ile	gcg Ala	ttt Phe	ctg Leu	ctc Leu	tta Leu	ctc Leu	624
atc Ile	tct Ser	tat Tyr	ggt Gly	gtc Val	atc Ile	ctg Leu	cac His	tct Ser	cta Leu	aag Lys	aaa Lys	ctt Leu	agt Ser	cag Gln	aaa Lys	672
ggg Gly	agg Arg	caa Gln	aaa Lys	gcc Ala	cac His	tca Ser	acc Thr	tgc Cys	agt Ser	tcc Ser	cac His	atc Ile	act Thr	gtg Val	gtt Val	720
gtc Val	ttc Phe	ttc Phe	ttt Phe	gtt Val	cct Pro	tgt Cys	att Ile	ttt Phe	atg Met	tgt Cys	gct Ala	aga Arg	cct Pro	gct Ala	agg Arg	768
acc Thr	ttc Phe	tcc Ser	att Ile	gac Asp	aaa Lys	tca Ser	gtg Val	agt Ser	gtg Val	ttt Phe	tat Tyr	aca Thr	gtc Val	ata Ile	acc Thr	816
cca Pro	atg Met	ctg Leu	aac Asn	ccc Pro	tta Leu	atc Ile	tac Tyr	act Thr	ctg Leu	aga Arg	aat Asn	tct Ser	gag Glu	atg Met	aca Thr	864
agt Ser	gct Ala	atg Met	aag Lys	aag Lys	ctt Leu	tag										885

<210> 90

<211> 294

<212> PRT

<213> Homo Sapiens

<400> 90

Met Gln Thr Asp Phe Val Leu Leu Cys Phe Arg Gln Asn Pro Gln Glu
1 5 10 15

Leu Lys Val Leu Phe Val Met Phe Leu Leu Phe Tyr Ile Leu Thr Met
20 25 30

Val Gly Asn Leu Leu Ile Val Val Thr Val Thr Val Ser Glu Thr Leu
35 40 45

Gly Ser Pro Met Ser Phe Phe Leu Ala Gly Leu Thr Phe Ile Asp Ile
50 55 60

Ile Tyr Ser Ser Ser Ile Ser Pro Arg Leu Ile Ser Asp Leu Phe Phe
65 70 75 80

Gly Asn Asn Ser Ile Ser Phe Gln Ser Phe Met Ala Gln Leu Phe Ile
85 90 95

Glu His Leu Phe Gly Gly Ser Glu Val Phe Leu Leu Leu Val Met Ala
100 105 110

Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu His Tyr Leu Val Ile
115 120 125

Met Arg Gln Trp Val Cys Val Leu Leu Leu Val Val Ser Trp Val Gly
130 135 140

Gly Phe Leu Gln Ser Val Phe Gln Leu Ser Ile Ile Tyr Gly Leu Pro
145 150 155 160

Phe Cys Gly Pro Asn Val Ile Asp His Phe Phe Cys Asp Met Tyr Pro
165 170 175

Leu Leu Lys Leu Ala Cys Thr Asp Thr His Val Ile Gly Leu Leu Val
180 185 190

Val Ala Asn Gly Gly Leu Ser Cys Thr Ile Ala Phe Leu Leu Leu Leu
195 200 205

Ile Ser Tyr Gly Val Ile Leu His Ser Leu Lys Lys Leu Ser Gln Lys
210 215 220

Gly Arg Gln Lys Ala His Ser Thr Cys Ser Ser His Ile Thr Val Val
225 230 235 240

Val Phe Phe Phe Val Pro Cys Ile Phe Met Cys Ala Arg Pro Ala Arg
245 250 255

Thr Phe Ser Ile Asp Lys Ser Val Ser Val Phe Tyr Thr Val Ile Thr
 260 265 270

Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg Asn Ser Glu Met Thr
 275 280 285

Ser Ala Met Lys Lys Leu
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<210> 91

<211> 1014

<212> DNA

<213> Homo Sapiens

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<221> CDS

<222> (1)..(1011)

<223>

<400> 91

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 Met Glu Gly Lys Asn Gln Thr Asn Ile Ser Glu Phe Leu Leu Leu Gly
 1 5 10 15

ttc tca agt tgg caa caa cag cag gtg cta ctc ttt gca ctt ttc ctg 96
 Phe Ser Ser Trp Gln Gln Gln Gln Val Leu Leu Phe Ala Leu Phe Leu
 20 25 30

tgt ctc tat tta aca ggg ctg ttt gga aac tta ctc atc ttg ctg gcc 144
 Cys Leu Tyr Leu Thr Gly Leu Phe Gly Asn Leu Leu Ile Leu Leu Ala
 35 40 45

att ggc tcg gat cac tgc ctt cac aca ccc atg tat ttc ttc ctt gcc 192
 Ile Gly Ser Asp His Cys Leu His Thr Pro Met Tyr Phe Phe Leu Ala
 50 55 60

aat ctg tcc ttg gta gac ctc tgc ctt ccc tca gcc aca gtc ccc aag 240
 Asn Leu Ser Leu Val Asp Leu Cys Leu Pro Ser Ala Thr Val Pro Lys
 65 70 75 80

atg cta ctg aac atc caa acc caa acc caa acc atc tcc tat ccc ggc 288
 Met Leu Leu Asn Ile Gln Thr Gln Thr Gln Thr Ile Ser Tyr Pro Gly
 85 90 95

tgc ctg gct cag atg tat ttc tgt atg atg ttt gcc aat atg gac aat 336
 Cys Leu Ala Gln Met Tyr Phe Cys Met Met Phe Ala Asn Met Asp Asn
 100 105 110

ttt ctt ctc aca gtg atg gca tat gac cgt tac gtg gcc atc tgt cac 384
 Phe Leu Leu Thr Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His
 115 120 125

cct tta cat tac tcc acc att atg gcc ctg cgc ctc tgt gcc tct ctg Pro Leu His Tyr Ser Thr Ile Met Ala Leu Arg Leu Cys Ala Ser Leu 130 135 140	432
gta gct gca cct tgg gtc att gcc att ttg aac cct ctc ttg cac act Val Ala Ala Pro Trp Val Ile Ala Ile Leu Asn Pro Leu Leu His Thr 145 150 155 160	480
ctt atg atg gcc cat ctg cac ttc tgc tct gat aat gtt atc cac cat Leu Met Met Ala His Leu His Phe Cys Ser Asp Asn Val Ile His His 165 170 175	528
ttc ttc tgt gat atc aac tct ctc ctc cct ctg tcc tgt tcc gac acc Phe Phe Cys Asp Ile Asn Ser Leu Leu Pro Leu Ser Cys Ser Asp Thr 180 185 190	576
agt ctt aat cag ttg agt gtt ctg gct acg gtg ggg ctg atc ttt gtg Ser Leu Asn Gln Leu Ser Val Leu Ala Thr Val Gly Leu Ile Phe Val 195 200 205	624
gta cct tca gtg tgt atc ctg gta tcc tat atc ctc att gtt tct gct Val Pro Ser Val Cys Ile Leu Val Ser Tyr Ile Leu Ile Val Ser Ala 210 215 220	672
gtg atg aaa gtc cct tct gcc caa gga aaa ctc aag gct ttc tct acc Val Met Lys Val Pro Ser Ala Gln Gly Lys Leu Lys Ala Phe Ser Thr 225 230 235 240	720
tgt gga tct cac ctt gcc ttg gtc att ctt ttc tat gga gca aac aca Cys Gly Ser His Leu Ala Leu Val Ile Leu Phe Tyr Gly Ala Asn Thr 245 250 255	768
ggg gtc tat atg agc ccc tta tcc aat cac tct act gaa aaa gac tca Gly Val Tyr Met Ser Pro Leu Ser Asn His Ser Thr Glu Lys Asp Ser 260 265 270	816
gcc gca tca gtc att ttt atg gtt gta gca cct gtg ttg aat cca ttc Ala Ala Ser Val Ile Phe Met Val Val Ala Pro Val Leu Asn Pro Phe 275 280 285	864
att tac agt tta aga aac aat gaa ctg aag ggg act tta aaa aag acc Ile Tyr Ser Leu Arg Asn Asn Glu Leu Lys Gly Thr Leu Lys Lys Thr 290 295 300	912
cta agc cgg ccg ggc gcg gtg gct cac gcc tgt aat ccc agc act ttg Leu Ser Arg Pro Gly Ala Val Ala His Ala Cys Asn Pro Ser Thr Leu 305 310 315 320	960
gga ggc cga ggc ggg tgg atc atg agg tca gga gat cga gac cat cct Gly Gly Arg Gly Gly Trp Ile Met Arg Ser Gly Asp Arg Asp His Pro 325 330 335	1008
ggc taa Gly	1014

<210> 92

<211> 337

<212> PRT

<213> Homo Sapiens

<400> 92

Met Glu Gly Lys Asn Gln Thr Asn Ile Ser Glu Phe Leu Leu Leu Gly
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Phe Ser Ser Trp Gln Gln Gln Gln Val Leu Leu Phe Ala Leu Phe Leu
 20 25 30

Cys Leu Tyr Leu Thr Gly Leu Phe Gly Asn Leu Leu Ile Leu Leu Ala
 35 40 45

Ile Gly Ser Asp His Cys Leu His Thr Pro Met Tyr Phe Phe Leu Ala
 50 55 60

Asn Leu Ser Leu Val Asp Leu Cys Leu Pro Ser Ala Thr Val Pro Lys
 65 70 75 80

Met Leu Leu Asn Ile Gln Thr Gln Thr Gln Thr Ile Ser Tyr Pro Gly
 85 90 95

Cys Leu Ala Gln Met Tyr Phe Cys Met Met Phe Ala Asn Met Asp Asn
 100 105 110

Phe Leu Leu Thr Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His
 115 120 125

Pro Leu His Tyr Ser Thr Ile Met Ala Leu Arg Leu Cys Ala Ser Leu
 130 135 140

Val Ala Ala Pro Trp Val Ile Ala Ile Leu Asn Pro Leu Leu His Thr
 145 150 155 160

Leu Met Met Ala His Leu His Phe Cys Ser Asp Asn Val Ile His His
 165 170 175

Phe Phe Cys Asp Ile Asn Ser Leu Leu Pro Leu Ser Cys Ser Asp Thr
 180 185 190

Ser Leu Asn Gln Leu Ser Val Leu Ala Thr Val Gly Leu Ile Phe Val
 195 200 205

Val Pro Ser Val Cys Ile Leu Val Ser Tyr Ile Leu Ile Val Ser Ala
 210 215 220

Val Met Lys Val Pro Ser Ala Gln Gly Lys Leu Lys Ala Phe Ser Thr
 225 230 235 240

Cys Gly Ser His Leu Ala Leu Val Ile Leu Phe Tyr Gly Ala Asn Thr
 245 250 255

Gly Val Tyr Met Ser Pro Leu Ser Asn His Ser Thr Glu Lys Asp Ser

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<210> 93
<211> 945
<212> DNA
<213> Homo Sapiens
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<222>   (1) .. (942)
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1	5	10	15													
ttt atg gac cac ccc aaa ttg gag att ccc ctc ttt ctg gtg ttt ctg	96															
Phe Met Asp His Pro Lys Leu Glu Ile Pro Leu Phe Leu Val Phe Leu																
	20	25	30													
agt ttc tac cta gtc acc ctt ctt ggg aat gtg ggg atg att atg tta	144															
Ser Phe Tyr Leu Val Thr Leu Leu Gly Asn Val Gly Met Ile Met Leu																
	35	40	45													
atc caa gta gat gtc aaa ctc tac acc cca atg tac ttc ttc ctg agc	192															
Ile Gln Val Asp Val Lys Leu Tyr Thr Pro Met Tyr Phe Phe Leu Ser																
50	55	60														
cac ctc tcc ctg ctg gat gcc tgt tac acc tca gtc atc acc cct cag	240															
His Leu Ser Leu Leu Asp Ala Cys Tyr Thr Ser Val Ile Thr Pro Gln																
65	70	75	80													
atc cta gcc aca ttg gcc aca ggc aaa acg gtc atc tcc tac ggc cac	288															
Ile Leu Ala Thr Leu Ala Thr Gly Lys Thr Val Ile Ser Tyr Gly His																
	85	90	95													

tgt gct gcc cag ttc ttt tta ttc acc atc tgt gca ggc aca gag tcg	336
Cys Ala Ala Gln Phe Phe Leu Phe Thr Ile Cys Ala Gly Thr Glu Ser	
100 105 110	
ttt ctg ctg gca gtg atg gcc tat gat cgc tat gct gcc att cgc aac	384
Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Ala Ala Ile Arg Asn	
115 120 125	
cca ctg ctc tat acc gtg gcc atg aat ccc agg ctc tgc tgg agc ctg	432
Pro Leu Leu Tyr Thr Val Ala Met Asn Pro Arg Leu Cys Trp Ser Leu	
130 135 140	
gtg gta gga gcc tat gtc tgt ggg gtg tca gga gcc atc ctg cgt acc	480
Val Val Gly Ala Tyr Val Cys Gly Val Ser Gly Ala Ile Leu Arg Thr	
145 150 155 160	
act tgc acc ttc acc ctc tcc ttc tgt aag gac aat caa ata aac ttc	528
Thr Cys Thr Phe Thr Leu Ser Phe Cys Lys Asp Asn Gln Ile Asn Phe	
165 170 175	
ttc ttc tgt gac ctc cca ccc ctg ctg aag ctt gcc tgc agt gac aca	576
Phe Phe Cys Asp Leu Pro Pro Leu Leu Lys Leu Ala Cys Ser Asp Thr	
180 185 190	
gca aac atc gag att gtc atc atc ttc ttt ggc aat ttt gtg att ttg	624
Ala Asn Ile Glu Ile Val Ile Ile Phe Phe Gly Asn Phe Val Ile Leu	
195 200 205	
gcc aat gcc tcc gtc atc ctg att tcc tat ctg ctc atc atc aag acc	672
Ala Asn Ala Ser Val Ile Leu Ile Ser Tyr Leu Leu Ile Ile Lys Thr	
210 215 220	
att ttg aaa gtg aag tct tca ggt ggc agg gcc aag act ttc tcc aca	720
Ile Leu Lys Val Lys Ser Ser Gly Gly Arg Ala Lys Thr Phe Ser Thr	
225 230 235 240	
tgt gcc tct cac atc act gct gtg gcc ctt ttc ttt gga gcc ctt atc	768
Cys Ala Ser His Ile Thr Ala Val Ala Leu Phe Phe Gly Ala Leu Ile	
245 250 255	
ttc atg tat ctg caa agt ggc tca ggc aaa tct ctg gag gaa gac aaa	816
Phe Met Tyr Leu Gln Ser Gly Ser Gly Lys Ser Leu Glu Glu Asp Lys	
260 265 270	
gtc gtg tct gtc ttc tat aca gtg gtc atc ccc atg ctg aac cct ctg	864
Val Val Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu	
275 280 285	
atc tac agc tta aga aac aaa gat gta aaa gac gcc ttc aga aag gtc	912
Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Ala Phe Arg Lys Val	
290 295 300	
gct agg aga ctc cag gtg tcc ctg agc atg tag	945
Ala Arg Arg Leu Gln Val Ser Leu Ser Met	
305 310	

<210> 94

<211> 314

<212> PRT

<213> Homo Sapiens

<400> 94

Met Ala Lys Asn Asn Leu Thr Arg Val Thr Glu Phe Ile Leu Met Gly
 1 5 10 15

Phe Met Asp His Pro Lys Leu Glu Ile Pro Leu Phe Leu Val Phe Leu
 20 25 30

Ser Phe Tyr Leu Val Thr Leu Leu Gly Asn Val Gly Met Ile Met Leu
 35 40 45

Ile Gln Val Asp Val Lys Leu Tyr Thr Pro Met Tyr Phe Phe Leu Ser
 50 55 60

His Leu Ser Leu Leu Asp Ala Cys Tyr Thr Ser Val Ile Thr Pro Gln
 65 70 75 80

Ile Leu Ala Thr Leu Ala Thr Gly Lys Thr Val Ile Ser Tyr Gly His
 85 90 95

Cys Ala Ala Gln Phe Phe Leu Phe Thr Ile Cys Ala Gly Thr Glu Ser
 100 105 110

Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Ala Ala Ile Arg Asn
 115 120 125

Pro Leu Leu Tyr Thr Val Ala Met Asn Pro Arg Leu Cys Trp Ser Leu
 130 135 140

Val Val Gly Ala Tyr Val Cys Gly Val Ser Gly Ala Ile Leu Arg Thr
 145 150 155 160

Thr Cys Thr Phe Thr Leu Ser Phe Cys Lys Asp Asn Gln Ile Asn Phe
 165 170 175

Phe Phe Cys Asp Leu Pro Pro Leu Leu Lys Leu Ala Cys Ser Asp Thr
 180 185 190

Ala Asn Ile Glu Ile Val Ile Ile Phe Phe Gly Asn Phe Val Ile Leu
 195 200 205

Ala Asn Ala Ser Val Ile Leu Ile Ser Tyr Leu Leu Ile Ile Lys Thr
 210 215 220

Ile Leu Lys Val Lys Ser Ser Gly Gly Arg Ala Lys Thr Phe Ser Thr
 225 230 235 240

Cys Ala Ser His Ile Thr Ala Val Ala Leu Phe Phe Gly Ala Leu Ile
 245 250 255

Phe Met Tyr Leu Gln Ser Gly Ser Gly Lys Ser Leu Glu Glu Asp Lys
 260 265 270

Val Val Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu
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 Leu Thr Arg Ser Arg Glu Leu Glu Phe Phe Leu Phe Val Val Phe Phe
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 Ala Val Tyr Val Ala Thr Val Leu Gly Asn Ala Leu Ile Val Val Thr
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 att acc tgt gag tcc cgc cta cac act cct atg tac ttt ctc ctg cgg 192
 Ile Thr Cys Glu Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu Arg
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 aac aaa tca gtc ctg gac atc gtt ttt tca tct atc acc gtc ccc aag 240
 Asn Lys Ser Val Leu Asp Ile Val Phe Ser Ser Ile Thr Val Pro Lys
 65 70 75 80
 ttc ctg gtg gat ctt tta tca gac agg aaa acc atc tcc tac aat gac 288
 Phe Leu Val Asp Leu Leu Ser Asp Arg Lys Thr Ile Ser Tyr Asn Asp
 85 90 95
 tgc atg gca cag atc ttt ttc ttc cac ttt gct ggt ggg gca gat att 336
 Cys Met Ala Gln Ile Phe Phe Phe His Phe Ala Gly Gly Ala Asp Ile
 100 105 110
 ttt ttc ctc tct gtg atg gcc tat gac aga tac ctt gca atc gcc aag 384
 Phe Phe Leu Ser Val Met Ala Tyr Asp Arg Tyr Leu Ala Ile Ala Lys
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ccc ctg cac tat gtg acc atg atg agg aaa gag gtg tgg gtg gcc ttg      432
Pro Leu His Tyr Val Thr Met Met Arg Lys Glu Val Trp Val Ala Leu
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gtg gtg gct tct tgg gtg agt ggt ggt ttg cat tca atc atc cag gta      480
Val Val Ala Ser Trp Val Ser Gly Gly Leu His Ser Ile Ile Gln Val
    145                      150                      155                      160

att ctg atg ctt cca ttc ccc ttc tgt ggc ccc aac aca ctg gat gcc      528
Ile Leu Met Leu Pro Phe Pro Phe Cys Gly Pro Asn Thr Leu Asp Ala
    165                      170                      175

ttc tac tgt tat gtg ctc cag gtg gta aaa ctg gcc tgc act gac acc      576
Phe Tyr Cys Tyr Val Leu Gln Val Val Lys Leu Ala Cys Thr Asp Thr
    180                      185                      190

ttt gct ttg gag ctt ttc atg atc tct aac aac gga ctg gtg acc ctg      624
Phe Ala Leu Glu Leu Phe Met Ile Ser Asn Asn Gly Leu Val Thr Leu
    195                      200                      205

ctc tgg ttc ctc ctg ctc ctg ggc tcc tac act gtc att ctg gtg atg      672
Leu Trp Phe Leu Leu Leu Leu Gly Ser Tyr Thr Val Ile Leu Val Met
    210                      215                      220

ctg aga tcc cac tct ggg gag ggg cgg aac aag gcc ctc tcc acg tgc      720
Leu Arg Ser His Ser Gly Glu Gly Arg Asn Lys Ala Leu Ser Thr Cys
    225                      230                      235                      240

acg tcc cac atg ctg gtg gtg act ctt cac ttc gtg cct tgt gtt tac      768
Thr Ser His Met Leu Val Val Thr Leu His Phe Val Pro Cys Val Tyr
    245                      250                      255

atc tac tgc cgg ccc ttc atg acg ctg ccc atg gac aca acc ata tcc      816
Ile Tyr Cys Arg Pro Phe Met Thr Leu Pro Met Asp Thr Thr Ile Ser
    260                      265                      270

att aat aac acg gtc att acc ccc atg ctg aac ccc atc atc tat tcc      864
Ile Asn Asn Thr Val Ile Thr Pro Met Leu Asn Pro Ile Ile Tyr Ser
    275                      280                      285

ctg aga aat caa gag atg aag tca gcc atg cag agg ctg cag agg aga      912
Leu Arg Asn Gln Glu Met Lys Ser Ala Met Gln Arg Leu Gln Arg Arg
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ctt ggg cct tcc gag agc aga aaa tgg ggg tga      945
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<210> 96

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<212> PRT

<213> Homo Sapiens

<400> 96

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Leu Thr Arg Ser Arg Glu Leu Glu Phe Phe Leu Phe Val Val Phe Phe

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Phe	Tyr	Cys	Tyr	Val	Leu	Gln	Val	Val	Lys	Leu	Ala	Cys	Thr	Asp	Thr
				180				185					190		
Phe	Ala	Leu	Glu	Leu	Phe	Met	Ile	Ser	Asn	Asn	Gly	Leu	Val	Thr	Leu
		195					200					205			
Leu	Trp	Phe	Leu	Leu	Leu	Leu	Gly	Ser	Tyr	Thr	Val	Ile	Leu	Val	Met
	210					215					220				
Leu	Arg	Ser	His	Ser	Gly	Glu	Gly	Arg	Asn	Lys	Ala	Leu	Ser	Thr	Cys
225					230					235					240
Thr	Ser	His	Met	Leu	Val	Val	Thr	Leu	His	Phe	Val	Pro	Cys	Val	Tyr
				245					250					255	
Ile	Tyr	Cys	Arg	Pro	Phe	Met	Thr	Leu	Pro	Met	Asp	Thr	Thr	Ile	Ser
			260					265					270		
Ile	Asn	Asn	Thr	Val	Ile	Thr	Pro	Met	Leu	Asn	Pro	Ile	Ile	Tyr	Ser
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Leu Gly Pro Ser Glu Ser Arg Lys Trp Gly
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<210> 97
 <211> 993

<212> DNA

<213> Homo Sapiens

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<221> CDS

<222> (1)..(990)

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 ttg gga ccc cag aac aga aca atg cat ttt gtg act gag ttt gtc ctc 96
 Leu Gly Pro Gln Asn Arg Thr Met His Phe Val Thr Glu Phe Val Leu
 20 25 30
 ctg ggt ttc cat ggt caa agg gag atg cag agc tgc ttc ttc tca ttc 144
 Leu Gly Phe His Gly Gln Arg Glu Met Gln Ser Cys Phe Phe Ser Phe
 35 40 45
 atc ctg gtt ctc tat ctc ctg aca ctg cta ggg aat gga gct att gtc 192
 Ile Leu Val Leu Tyr Leu Leu Thr Leu Leu Gly Asn Gly Ala Ile Val
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 tgt gca gtg aaa ttg gac agg cgg ctc cac aca ccc atg tac atc ctt 240
 Cys Ala Val Lys Leu Asp Arg Arg Leu His Thr Pro Met Tyr Ile Leu
 65 70 75 80
 ctg gga aac ttt gcc ttt cta gag atc tgg tac att tcc tcc act gtc 288
 Leu Gly Asn Phe Ala Phe Leu Glu Ile Trp Tyr Ile Ser Ser Thr Val
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 cca aac atg cta gtc aat atc ctc tct gag att aaa acc atc tcc ttc 336
 Pro Asn Met Leu Val Asn Ile Leu Ser Glu Ile Lys Thr Ile Ser Phe
 100 105 110
 tct ggt tgc ttc ctg caa ttc tat ttc ttt ttt tca ctg ggt aca aca 384
 Ser Gly Cys Phe Leu Gln Phe Tyr Phe Phe Phe Ser Leu Gly Thr Thr
 115 120 125
 gag tgt ttc ttt tta tca gtt atg gct tat gat cgg tac ctg gcc atc 432
 Glu Cys Phe Phe Leu Ser Val Met Ala Tyr Asp Arg Tyr Leu Ala Ile
 130 135 140
 tgt cgt cca tta cac tac ccc tcc atc atg act ggg aag ttc tgt ata 480
 Cys Arg Pro Leu His Tyr Pro Ser Ile Met Thr Gly Lys Phe Cys Ile
 145 150 155 160

att ctg gtc tgt gta tgc tgg gta ggc gga ttt ctc tgc tat cca gtc 528
 Ile Leu Val Cys Val Cys Trp Val Gly Gly Phe Leu Cys Tyr Pro Val
 165 170 175

cct att gtt ctt atc tcc caa ctt ccc ttc tgt ggg ccc aac atc att 576
 Pro Ile Val Leu Ile Ser Gln Leu Pro Phe Cys Gly Pro Asn Ile Ile
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gac cac ttg gtg tgt gac cca ggc cca ttg ttt gca ctg gcc tgc atc 624
 Asp His Leu Val Cys Asp Pro Gly Pro Leu Phe Ala Leu Ala Cys Ile
 195 200 205

tct gct cct tcc act gag ctt atc tgt tac acc ttc aac tcg atg att 672
 Ser Ala Pro Ser Thr Glu Leu Ile Cys Tyr Thr Phe Asn Ser Met Ile
 210 215 220

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aga gct gtg ctt tgt att ccc tct ggt gct ggt cga act aaa gct ttc 768
 Arg Ala Val Leu Cys Ile Pro Ser Gly Ala Gly Arg Thr Lys Ala Phe
 245 250 255

tcc aca tgt ggg tcc cac cta atg gtg gtg tct cta ttc tat gga acc 816
 Ser Thr Cys Gly Ser His Leu Met Val Val Ser Leu Phe Tyr Gly Thr
 260 265 270

ctt atg gtg atg tat gtg agc cca aca tca ggg aac cca gca gga atg 864
 Leu Met Val Met Tyr Val Ser Pro Thr Ser Gly Asn Pro Ala Gly Met
 275 280 285

cag aag atc atc act ctg gta tac aca gca atg act cca ttc tta aat 912
 Gln Lys Ile Ile Thr Leu Val Tyr Thr Ala Met Thr Pro Phe Leu Asn
 290 295 300

ccc ctt atc tat agt ctt cga aac aaa gac atg aaa gat gct cta aag 960
 Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Met Lys Asp Ala Leu Lys
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<210> 98

<211> 330

<212> PRT

<213> Homo Sapiens

<400> 98

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Leu Gly Phe His Gly Gln Arg Glu Met Gln Ser Cys Phe Phe Ser Phe

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Cys	Ala	Val	Lys	Leu	Asp	Arg	Arg	Leu	His	Thr	Pro	Met	Tyr	Ile	Leu
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Leu	Gly	Asn	Phe	Ala	Phe	Leu	Glu	Ile	Trp	Tyr	Ile	Ser	Ser	Thr	Val
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Pro	Asn	Met	Leu	Val	Asn	Ile	Leu	Ser	Glu	Ile	Lys	Thr	Ile	Ser	Phe
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Ser	Gly	Cys	Phe	Leu	Gln	Phe	Tyr	Phe	Phe	Phe	Ser	Leu	Gly	Thr	Thr
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Glu	Cys	Phe	Phe	Leu	Ser	Val	Met	Ala	Tyr	Asp	Arg	Tyr	Leu	Ala	Ile
	130					135					140				
Cys	Arg	Pro	Leu	His	Tyr	Pro	Ser	Ile	Met	Thr	Gly	Lys	Phe	Cys	Ile
145					150					155					160
Ile	Leu	Val	Cys	Val	Cys	Trp	Val	Gly	Gly	Phe	Leu	Cys	Tyr	Pro	Val
			165						170					175	
Pro	Ile	Val	Leu	Ile	Ser	Gln	Leu	Pro	Phe	Cys	Gly	Pro	Asn	Ile	Ile
			180					185					190		
Asp	His	Leu	Val	Cys	Asp	Pro	Gly	Pro	Leu	Phe	Ala	Leu	Ala	Cys	Ile
	195						200					205			
Ser	Ala	Pro	Ser	Thr	Glu	Leu	Ile	Cys	Tyr	Thr	Phe	Asn	Ser	Met	Ile
	210					215					220				
Ile	Phe	Gly	Pro	Phe	Leu	Ser	Ile	Leu	Gly	Ser	Tyr	Thr	Leu	Val	Ile
225					230					235					240
Arg	Ala	Val	Leu	Cys	Ile	Pro	Ser	Gly	Ala	Gly	Arg	Thr	Lys	Ala	Phe
			245						250					255	
Ser	Thr	Cys	Gly	Ser	His	Leu	Met	Val	Val	Ser	Leu	Phe	Tyr	Gly	Thr
			260					265					270		
Leu	Met	Val	Met	Tyr	Val	Ser	Pro	Thr	Ser	Gly	Asn	Pro	Ala	Gly	Met
		275					280					285			
Gln	Lys	Ile	Ile	Thr	Leu	Val	Tyr	Thr	Ala	Met	Thr	Pro	Phe	Leu	Asn
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Arg Val Leu Gly Leu Thr Val Ser Gln Asn
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<211> 933

<212> DNA

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<221> CDS

<222> (1)..(930)

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ttc act gaa tat cct gaa tgg gca ctc cct ctc ttc ctc ttg tta tta 96
 Phe Thr Glu Tyr Pro Glu Trp Ala Leu Pro Leu Phe Leu Leu Leu Leu
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ttt atg tat ctc atc acc gta ttg ggg aac tta gag atg att att ctg 144
 Phe Met Tyr Leu Ile Thr Val Leu Gly Asn Leu Glu Met Ile Ile Leu
 35 40 45

atc ctc atg gat cac cag ctc cac gct cca atg tat ttc ctt ctg agt 192
 Ile Leu Met Asp His Gln Leu His Ala Pro Met Tyr Phe Leu Leu Ser
 50 55 60

cac ctc gct ttc atg gac gtc tgc tac tca tct atc act gtc ccc cag 240
 His Leu Ala Phe Met Asp Val Cys Tyr Ser Ser Ile Thr Val Pro Gln
 65 70 75 80

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 85 90 95

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 Cys Ala Ala Gln Phe Phe Leu Phe Thr Phe Phe Gly Ser Ile Asp Cys
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 Tyr Leu Leu Ala Leu Met Ala Tyr Asp Arg Tyr Leu Ala Val Cys Gln
 115 120 125

ccc ctg ctt tat gtc acc atc ctg aca cag cag gcc cgc ttg agt ctt 432
 Pro Leu Leu Tyr Val Thr Ile Leu Thr Gln Gln Ala Arg Leu Ser Leu
 130 135 140

gtg gct ggg gct tac gtt gct ggt ctc atc agt gcc ttg gtg cgg aca 480
 Val Ala Gly Ala Tyr Val Ala Gly Leu Ile Ser Ala Leu Val Arg Thr

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gtc tca gcc ttc act ctc tcc ttc tgt gga acc agt gag att gac ttt							528
Val Ser Ala Phe Thr Leu Ser Phe Cys Gly Thr Ser Glu Ile Asp Phe							
		165		170		175	
att ttc tgt gac ctc cct cct ctg tta aag ttg acc tgt ggg gag agc							576
Ile Phe Cys Asp Leu Pro Pro Leu Leu Lys Leu Thr Cys Gly Glu Ser							
		180		185		190	
tac act caa gaa gtg ctg att att atg ttt gcc att ttt gtc atc cct							624
Tyr Thr Gln Glu Val Leu Ile Ile Met Phe Ala Ile Phe Val Ile Pro							
		195		200		205	
gct tcc atg gtg gtg atc ttg gtg tcc tac ctg ttt atc atc gtg gcc							672
Ala Ser Met Val Val Ile Leu Val Ser Tyr Leu Phe Ile Ile Val Ala							
		210		215		220	
atc atg ggg atc cct gct gga agc cag gcc aag acc ttc tcc acc tgc							720
Ile Met Gly Ile Pro Ala Gly Ser Gln Ala Lys Thr Phe Ser Thr Cys							
		225		230		235	240
acc tcc cac ctc act gct gtg tca ctc ttc ttt ggt acc ctc atc ttc							768
Thr Ser His Leu Thr Ala Val Ser Leu Phe Phe Gly Thr Leu Ile Phe							
		245		250		255	
atg tac ttg aga ggt aac tca gat cag tct tcg gag aag aat cgg gta							816
Met Tyr Leu Arg Gly Asn Ser Asp Gln Ser Ser Glu Lys Asn Arg Val							
		260		265		270	
gtg tct gtg ctt tac aca gag gtc atc ccc atg ttg aat ccc ctc atc							864
Val Ser Val Leu Tyr Thr Glu Val Ile Pro Met Leu Asn Pro Leu Ile							
		275		280		285	
tac agc ctg agg aac aag gaa gtg aag gag gcc ctg aga aaa att ctc							912
Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Leu Arg Lys Ile Leu							
		290		295		300	
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Asn Arg Ala Lys Leu Ser							
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<212> PRT

<213> Homo Sapiens

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			20				25					30		

Phe Met Tyr Leu Ile Thr Val Leu Gly Asn Leu Glu Met Ile Ile Leu														
			35			40			45					

Ile Leu Met Asp His Gln Leu His Ala Pro Met Tyr Phe Leu Leu Ser
50 55 60

His Leu Ala Phe Met Asp Val Cys Tyr Ser Ser Ile Thr Val Pro Gln
65 70 75 80

Met Leu Ala Val Leu Leu Glu His Gly Ala Ala Leu Ser Tyr Thr Arg
85 90 95

Cys Ala Ala Gln Phe Phe Leu Phe Thr Phe Phe Gly Ser Ile Asp Cys
100 105 110

Tyr Leu Leu Ala Leu Met Ala Tyr Asp Arg Tyr Leu Ala Val Cys Gln
115 120 125

Pro Leu Leu Tyr Val Thr Ile Leu Thr Gln Gln Ala Arg Leu Ser Leu
130 135 140

Val Ala Gly Ala Tyr Val Ala Gly Leu Ile Ser Ala Leu Val Arg Thr
145 150 155 160

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

Ile Phe Cys Asp Leu Pro Pro Leu Leu Lys Leu Thr Cys Gly Glu Ser
180 185 190

Tyr Thr Gln Glu Val Leu Ile Ile Met Phe Ala Ile Phe Val Ile Pro
195 200 205

Ala Ser Met Val Val Ile Leu Val Ser Tyr Leu Phe Ile Ile Val Ala
210 215 220

Ile Met Gly Ile Pro Ala Gly Ser Gln Ala Lys Thr Phe Ser Thr Cys
225 230 235 240

Thr Ser His Leu Thr Ala Val Ser Leu Phe Phe Gly Thr Leu Ile Phe
245 250 255

Met Tyr Leu Arg Gly Asn Ser Asp Gln Ser Ser Glu Lys Asn Arg Val
260 265 270

Val Ser Val Leu Tyr Thr Glu Val Ile Pro Met Leu Asn Pro Leu Ile
275 280 285

Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Leu Arg Lys Ile Leu
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Asn Arg Ala Lys Leu Ser
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<210> 101
<211> 936

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(933)

<223>

<400> 101

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cat gcc cca gcg ctg gac gcc ccc ctc ttt gga gtc ttc ctg gtg gtt	96
His Ala Pro Ala Leu Asp Ala Pro Leu Phe Gly Val Phe Leu Val Val	
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tac gtg ctc act gtg ctg ggg aac ctc ctc atc ctg ctg gtg atc agg	144
Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu Leu Val Ile Arg	
35 40 45	
gtg gat tct cac ctc cac acc acc atg tac tac ttc ctc acc aac ctg	192
Val Asp Ser His Leu His Thr Thr Met Tyr Tyr Phe Leu Thr Asn Leu	
50 55 60	
tcg ttc att gac atg tgg ttc tcc act gtc acg gtg ccc aaa ttg ctg	240
Ser Phe Ile Asp Met Trp Phe Ser Thr Val Thr Val Pro Lys Leu Leu	
65 70 75 80	
atg act ttg gtg ttc cca agt ggc agg gct atc tcc ttc cac agc tgc	288
Met Thr Leu Val Phe Pro Ser Gly Arg Ala Ile Ser Phe His Ser Cys	
85 90 95	
atg gct cag ctc tat ttc ttt cac ttc cta ggg ggc acc gag tgt ttc	336
Met Ala Gln Leu Tyr Phe Phe His Phe Leu Gly Gly Thr Glu Cys Phe	
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ctc tac agg gtc atg tcc tgt gat cgc tac ctg gcc atc agt tac ccg	384
Leu Tyr Arg Val Met Ser Cys Asp Arg Tyr Leu Ala Ile Ser Tyr Pro	
115 120 125	
ctc agg tac acc agc atg atg act ggg cgc tcg tgt act ctt ctg gcc	432
Leu Arg Tyr Thr Ser Met Met Thr Gly Arg Ser Cys Thr Leu Leu Ala	
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acc agc act tgg ctc agt ggc tct ctg cac tct gct gtc cag gcc ata	480
Thr Ser Thr Trp Leu Ser Gly Ser Leu His Ser Ala Val Gln Ala Ile	
145 150 155 160	
ttg act ttc cat ttg ccc tac tgt gga ccc aac tgg atc cag cac tat	528
Leu Thr Phe His Leu Pro Tyr Cys Gly Pro Asn Trp Ile Gln His Tyr	
165 170 175	
ttg tgt gat gca ccg ccc atc ctg aaa ctg gcc tgt gca gac acc tca	576
Leu Cys Asp Ala Pro Pro Ile Leu Lys Leu Ala Cys Ala Asp Thr Ser	

180										185					190					
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		195					200					205								
tgc	ttt	gtc	ctg	ata	gtg	ctg	tcc	tat	gtg	tcc	atc	gtc	tgt	tcc	atc		672			
Cys	Phe	Val	Leu	Ile	Val	Leu	Ser	Tyr	Val	Ser	Ile	Val	Cys	Ser	Ile					
	210					215					220									
ctg	cgg	atc	cgc	acc	tca	gag	ggg	aag	cac	aga	gcc	ttt	cag	acc	tgt		720			
Leu	Arg	Ile	Arg	Thr	Ser	Glu	Gly	Lys	His	Arg	Ala	Phe	Gln	Thr	Cys					
225					230				235						240					
gcc	tcc	cac	tgt	atc	gtg	gtc	ctt	tgc	ttc	ttt	ggc	cct	ggt	ctt	ttc		768			
Ala	Ser	His	Cys	Ile	Val	Val	Leu	Cys	Phe	Phe	Gly	Pro	Gly	Leu	Phe					
			245					250						255						
att	tac	ctg	agg	cca	ggc	tcc	agg	aaa	gct	gtg	gat	gga	gtt	gtg	gcc		816			
Ile	Tyr	Leu	Arg	Pro	Gly	Ser	Arg	Lys	Ala	Val	Asp	Gly	Val	Val	Ala					
		260					265						270							
gtt	ttc	tac	act	gtg	ctg	acg	ccc	ctt	ctc	aac	cct	gtt	gtg	tac	acc		864			
Val	Phe	Tyr	Thr	Val	Leu	Thr	Pro	Leu	Leu	Asn	Pro	Val	Val	Tyr	Thr					
		275					280					285								
ctg	agg	aac	aag	gag	gtg	aag	aaa	gct	ctg	ttg	aag	ctg	aaa	gac	aaa		912			
Leu	Arg	Asn	Lys	Glu	Val	Lys	Lys	Ala	Leu	Leu	Lys	Leu	Lys	Asp	Lys					
	290					295					300									
gta	gca	cat	tct	cag	agc	aaa	tag										936			
Val	Ala	His	Ser	Gln	Ser	Lys														
305					310															

<210> 102

<211> 311

<212> PRT

<213> Homo Sapiens

<400> 102

Met	Ser	Asn	Ala	Ser	Leu	Leu	Thr	Ala	Phe	Ile	Leu	Met	Gly	Leu	Pro
1				5					10					15	

His	Ala	Pro	Ala	Leu	Asp	Ala	Pro	Leu	Phe	Gly	Val	Phe	Leu	Val	Val
			20					25					30		

Tyr	Val	Leu	Thr	Val	Leu	Gly	Asn	Leu	Leu	Ile	Leu	Leu	Val	Ile	Arg
		35					40					45			

Val	Asp	Ser	His	Leu	His	Thr	Thr	Met	Tyr	Tyr	Phe	Leu	Thr	Asn	Leu
	50					55					60				

Ser	Phe	Ile	Asp	Met	Trp	Phe	Ser	Thr	Val	Thr	Val	Pro	Lys	Leu	Leu
65					70					75				80	

Met Thr Leu Val Phe Pro Ser Gly Arg Ala Ile Ser Phe His Ser Cys
85 90 95

Met Ala Gln Leu Tyr Phe Phe His Phe Leu Gly Gly Thr Glu Cys Phe
100 105 110

Leu Tyr Arg Val Met Ser Cys Asp Arg Tyr Leu Ala Ile Ser Tyr Pro
115 120 125

Leu Arg Tyr Thr Ser Met Met Thr Gly Arg Ser Cys Thr Leu Leu Ala
130 135 140

Thr Ser Thr Trp Leu Ser Gly Ser Leu His Ser Ala Val Gln Ala Ile
145 150 155 160

Leu Thr Phe His Leu Pro Tyr Cys Gly Pro Asn Trp Ile Gln His Tyr
165 170 175

Leu Cys Asp Ala Pro Pro Ile Leu Lys Leu Ala Cys Ala Asp Thr Ser
180 185 190

Ala Ile Glu Thr Val Ile Phe Val Thr Val Gly Ile Val Ala Ser Gly
195 200 205

Cys Phe Val Leu Ile Val Leu Ser Tyr Val Ser Ile Val Cys Ser Ile
210 215 220

Leu Arg Ile Arg Thr Ser Glu Gly Lys His Arg Ala Phe Gln Thr Cys
225 230 235 240

Ala Ser His Cys Ile Val Val Leu Cys Phe Phe Gly Pro Gly Leu Phe
245 250 255

Ile Tyr Leu Arg Pro Gly Ser Arg Lys Ala Val Asp Gly Val Val Ala
260 265 270

Val Phe Tyr Thr Val Leu Thr Pro Leu Leu Asn Pro Val Val Tyr Thr
275 280 285

Leu Arg Asn Lys Glu Val Lys Lys Ala Leu Leu Lys Leu Lys Asp Lys
290 295 300

Val Ala His Ser Gln Ser Lys
305 310

<210> 103

<211> 918

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(912)

<223>

<400> 103

atg cag agg agc aat cat aca gtg act gag ttt ata ctg ctg ggc ttc	48
Met Gln Arg Ser Asn His Thr Val Thr Glu Phe Ile Leu Leu Gly Phe	
1 5 10 15	
acc aca gac cca gga atg cag ctg ggc ctc ttc gtg gtg ttc ctg ggc	96
Thr Thr Asp Pro Gly Met Gln Leu Gly Leu Phe Val Val Phe Leu Gly	
20 25 30	
gtg tac tct ctc act gtg gta gga aat agc acc ctc atc gtg ttg atc	144
Val Tyr Ser Leu Thr Val Val Gly Asn Ser Thr Leu Ile Val Leu Ile	
35 40 45	
tgt aat gac tcc tgc ctc cac aca ccc atg tat ttt ttc act gga aat	192
Cys Asn Asp Ser Cys Leu His Thr Pro Met Tyr Phe Phe Thr Gly Asn	
50 55 60	
ctg tcg ttt ctg gat ctc tgg tat tct tct gtc tac acc cca aag atc	240
Leu Ser Phe Leu Asp Leu Trp Tyr Ser Ser Val Tyr Thr Pro Lys Ile	
65 70 75 80	
cta gtg acc tgc atc tct gaa gac aaa agc atc tcc ttt gct ggc tgc	288
Leu Val Thr Cys Ile Ser Glu Asp Lys Ser Ile Ser Phe Ala Gly Cys	
85 90 95	
ctg tgt cag ttc ttc ttc tct gca ggg ctg gcc tat agt gag tgc tac	336
Leu Cys Gln Phe Phe Phe Ser Ala Gly Leu Ala Tyr Ser Glu Cys Tyr	
100 105 110	
ctg ctg gct gcc gtg gct tat gac cgc tac gtg gcc atc tcc aag ccc	384
Leu Leu Ala Ala Val Ala Tyr Asp Arg Tyr Val Ala Ile Ser Lys Pro	
115 120 125	
ctg ctt tat gcc cag gcc atg tcc ata aag ctg tgt gca ttg ctg gta	432
Leu Leu Tyr Ala Gln Ala Met Ser Ile Lys Leu Cys Ala Leu Leu Val	
130 135 140	
gca gtc tca tat tgt ggt ggc ttt att aac tct tca atc atc acc aag	480
Ala Val Ser Tyr Cys Gly Gly Phe Ile Asn Ser Ser Ile Ile Thr Lys	
145 150 155 160	
aaa acg ttt tcc ttt aac ttc tgc cgt gaa aac atc att gat gac ttt	528
Lys Thr Phe Ser Phe Asn Phe Cys Arg Glu Asn Ile Ile Asp Asp Phe	
165 170 175	
ttc tgt gat ttg ctt ccc ttg gtg gag ctg gcc tgt ggc gag aag ggc	576
Phe Cys Asp Leu Leu Pro Leu Val Glu Leu Ala Cys Gly Glu Lys Gly	
180 185 190	
ggc tat aaa att atg atg tac ttc ctg ctg gcc tcc aat gtc atc tgc	624
Gly Tyr Lys Ile Met Met Tyr Phe Leu Leu Ala Ser Asn Val Ile Cys	
195 200 205	
ccc gca gtg ctc atc ctg gcc tcc tac ctc ttt atc atc acc agt gtc	672
Pro Ala Val Leu Ile Leu Ala Ser Tyr Leu Phe Ile Ile Thr Ser Val	

210	215	220	
ttg agg atc tcc tcc tcc aag ggc tac ctc aaa gcc ttc tcc aca tgc			720
Leu Arg Ile Ser Ser Ser Lys Gly Tyr Leu Lys Ala Phe Ser Thr Cys			
225	230	235	240
tcc tcc cac ctg acc tct gtc act tta tac tat ggc tcc att ctc tac			768
Ser Ser His Leu Thr Ser Val Thr Leu Tyr Tyr Gly Ser Ile Leu Tyr			
	245	250	255
atc tac gct ctc ccc aga tct agc tat tct ttt gat atg gac aaa ata			816
Ile Tyr Ala Leu Pro Arg Ser Ser Tyr Ser Phe Asp Met Asp Lys Ile			
	260	265	270
gtt tct aca ttt tac act gtg gta ttc ccc atg ttg aat ctc atg atc			864
Val Ser Thr Phe Tyr Thr Val Val Phe Pro Met Leu Asn Leu Met Ile			
	275	280	285
tac agc cta agg aat aag gat gtg aaa gag gct ctg aaa aaa ctt ctc			912
Tyr Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Leu Lys Lys Leu Leu			
	290	295	300
ccataa			918

<210> 104

<211> 304

<212> PRT

<213> Homo Sapiens

<400> 104

Met	Gln	Arg	Ser	Asn	His	Thr	Val	Thr	Glu	Phe	Ile	Leu	Leu	Gly	Phe
1				5					10					15	

Thr	Thr	Asp	Pro	Gly	Met	Gln	Leu	Gly	Leu	Phe	Val	Val	Phe	Leu	Gly
			20					25					30		

Val	Tyr	Ser	Leu	Thr	Val	Val	Gly	Asn	Ser	Thr	Leu	Ile	Val	Leu	Ile
		35					40					45			

Cys	Asn	Asp	Ser	Cys	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	Thr	Gly	Asn
	50					55					60				

Leu	Ser	Phe	Leu	Asp	Leu	Trp	Tyr	Ser	Ser	Val	Tyr	Thr	Pro	Lys	Ile
65					70					75					80

Leu	Val	Thr	Cys	Ile	Ser	Glu	Asp	Lys	Ser	Ile	Ser	Phe	Ala	Gly	Cys
				85					90					95	

Leu	Cys	Gln	Phe	Phe	Phe	Ser	Ala	Gly	Leu	Ala	Tyr	Ser	Glu	Cys	Tyr
			100					105					110		

Leu	Leu	Ala	Ala	Val	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Ser	Lys	Pro
		115					120					125			

Leu Leu Tyr Ala Gln Ala Met Ser Ile Lys Leu Cys Ala Leu Leu Val
 130 135 140

Ala Val Ser Tyr Cys Gly Gly Phe Ile Asn Ser Ser Ile Ile Thr Lys
 145 150 155 160

Lys Thr Phe Ser Phe Asn Phe Cys Arg Glu Asn Ile Ile Asp Asp Phe
 165 170 175

Phe Cys Asp Leu Leu Pro Leu Val Glu Leu Ala Cys Gly Glu Lys Gly
 180 185 190

Gly Tyr Lys Ile Met Met Tyr Phe Leu Leu Ala Ser Asn Val Ile Cys
 195 200 205

Pro Ala Val Leu Ile Leu Ala Ser Tyr Leu Phe Ile Ile Thr Ser Val
 210 215 220

Leu Arg Ile Ser Ser Ser Lys Gly Tyr Leu Lys Ala Phe Ser Thr Cys
 225 230 235 240

Ser Ser His Leu Thr Ser Val Thr Leu Tyr Tyr Gly Ser Ile Leu Tyr
 245 250 255

Ile Tyr Ala Leu Pro Arg Ser Ser Tyr Ser Phe Asp Met Asp Lys Ile
 260 265 270

Val Ser Thr Phe Tyr Thr Val Val Phe Pro Met Leu Asn Leu Met Ile
 275 280 285

Tyr Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Leu Lys Lys Leu Leu
 290 295 300

<210> 105
 <211> 1038

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(1035)

<223>

<400> 105

atg ccg atg cag ctg ctg ctt aca gat ttt att atc ttt tcc atc aga

Met 1	Pro	Met	Gln	Leu 5	Leu	Leu	Thr	Asp	Phe 10	Ile	Ile	Phe	Ser	Ile 15	Arg	
ttc	atc	atc	aac	agc	atg	gaa	gcg	aga	aac	caa	aca	gct	att	tca	aaa	96
Phe	Ile	Ile	Asn 20	Ser	Met	Glu	Ala	Arg 25	Asn	Gln	Thr	Ala	Ile 30	Ser	Lys	
ttc	ctt	ctc	ctg	gga	ctg	ata	gag	gat	ccg	gaa	ctg	cag	ccc	gtc	ctt	144
Phe	Leu	Leu	Leu 35	Gly	Leu	Ile	Glu 40	Asp	Pro	Glu	Leu	Gln 45	Pro	Val	Leu	
ttc	agc	ctg	ttc	ctg	tcc	atg	tac	ttg	gtc	acc	atc	ctg	ggg	aac	ctg	192
Phe	Ser	Leu	Phe	Leu	Ser	Met 55	Tyr	Leu	Val	Thr	Ile 60	Leu	Gly	Asn	Leu	
ctc	atc	ctc	ttg	gct	gtc	atc	tct	gac	tct	cac	ctc	cac	acc	ccc	atg	240
Leu	Ile	Leu	Leu	Ala	Val 70	Ile	Ser	Asp	Ser	His 75	Leu	His	Thr	Pro	Met 80	
tac	ttc	ttc	ctc	tcc	aat	ctc	tcc	ttt	ttg	gac	att	tgt	tta	agc	aca	288
Tyr	Phe	Phe	Leu	Ser 85	Asn	Leu	Ser	Phe	Leu 90	Asp	Ile	Cys	Leu	Ser 95	Thr	
acc	acg	atc	cca	aag	atg	ctg	gtg	aac	atc	caa	gct	cag	aat	cgg	agc	336
Thr	Thr	Ile	Pro 100	Lys	Met	Leu	Val	Asn 105	Ile	Gln	Ala	Gln	Asn 110	Arg	Ser	
atc	acg	tac	tca	ggc	tgc	ctc	acc	cag	atc	tgc	ttt	gtc	ttg	ttt	ttt	384
Ile	Thr	Tyr 115	Ser	Gly	Cys	Leu	Thr 120	Gln	Ile	Cys	Phe	Val 125	Leu	Phe	Phe	
gct	ggc	ttg	gaa	aat	tgt	ctc	ctt	gca	gca	atg	gcc	tat	gac	cgc	tat	432
Ala	Gly	Leu	Glu	Asn	Cys	Leu 135	Leu	Ala	Ala	Met	Ala 140	Tyr	Asp	Arg	Tyr	
gtg	gcc	att	tgt	cac	ccc	ctt	aga	tac	aca	gtc	atc	atg	aac	ccc	cgc	480
Val	Ala	Ile	Cys	His	Pro 150	Leu	Arg	Tyr	Thr	Val 155	Ile	Met	Asn	Pro	Arg 160	
ctc	tgt	ggc	ctg	ctg	att	ctt	ctc	tct	ctg	ttg	act	agt	gtt	gtg	aat	528
Leu	Cys	Gly	Leu	Leu 165	Ile	Leu	Leu	Ser	Leu 170	Leu	Thr	Ser	Val	Val 175	Asn	
gcc	ctt	ctt	ctc	agc	ctg	atg	gtg	ttg	agg	ctg	tcc	ttc	tgc	aca	gac	576
Ala	Leu	Leu	Leu 180	Ser	Leu	Met	Val	Leu 185	Arg	Leu	Ser	Phe	Cys 190	Thr	Asp	
ctg	gaa	atc	ccg	ctc	ttc	ttc	tgt	gaa	ctg	gct	cag	gtc	atc	caa	ctc	624
Leu	Glu	Ile	Pro 195	Leu	Phe	Phe	Cys 200	Glu	Leu	Ala	Gln	Val 205	Ile	Gln	Leu	
acc	tgt	tca	gac	acc	ctc	atc	aat	aac	atc	ctg	ata	tat	ttt	gca	gct	672
Thr	Cys	Ser	Asp	Thr	Leu	Ile 215	Asn	Asn	Ile	Leu	Ile 220	Tyr	Phe	Ala	Ala	
tgc	ata	ttt	ggc	ggc	gtt	cct	ctg	tct	gga	atc	att	ttg	tct	tac	act	720
Cys	Ile	Phe	Gly	Gly	Val 230	Pro	Leu	Ser	Gly	Ile 235	Ile	Leu	Ser	Tyr	Thr 240	
cag	atc	acc	tcc	tgt	gtt	ttg	aga	atg	cca	tca	gca	agt	gga	aag	cac	768
Gln	Ile	Thr	Ser	Cys 245	Val	Leu	Arg	Met	Pro 250	Ser	Ala	Ser	Gly	Lys 255	His	
aaa	gca	gtt	tcc	acc	tgt	ggg	tct	cac	ctc	tcc	att	gtt	ctc	ttg	ttc	816
Lys	Ala	Val	Ser 260	Thr	Cys	Gly	Ser	His 265	Leu	Ser	Ile	Val	Leu	Leu	Phe 270	

tat ggg gca ggt ttg ggg gtg tac att agt tct gtg gtt act gac tca 864
 Tyr Gly Ala Gly Leu Gly Val Tyr Ile Ser Ser Val Val Thr Asp Ser
 275 280 285

cct agg aag act gca gtg gct tca gtg atg tat tct gtg ttc cct caa 912
 Pro Arg Lys Thr Ala Val Ala Ser Val Met Tyr Ser Val Phe Pro Gln
 290 295 300

atg gtg aac ccc ttt atc tat agt ctg agg aat aag gac atg aaa gga 960
 Met Val Asn Pro Phe Ile Tyr Ser Leu Arg Asn Lys Asp Met Lys Gly
 305 310 315 320

acc ttg agg aag ttc ata ggg agg ata cct tct ctt ctg tgg tgt gcc 1008
 Thr Leu Arg Lys Phe Ile Gly Arg Ile Pro Ser Leu Leu Trp Cys Ala
 325 330 335

att tgc ttt gga ttc agg ttt cta gag taa 1038
 Ile Cys Phe Gly Phe Arg Phe Leu Glu
 340 345

<210> 106

<211> 345

<212> PRT

<213> Homo Sapiens

<400> 106

Met Pro Met Gln Leu Leu Leu Thr Asp Phe Ile Ile Phe Ser Ile Arg
 1 5 10 15

Phe Ile Ile Asn Ser Met Glu Ala Arg Asn Gln Thr Ala Ile Ser Lys
 20 25 30

Phe Leu Leu Leu Gly Leu Ile Glu Asp Pro Glu Leu Gln Pro Val Leu
 35 40 45

Phe Ser Leu Phe Leu Ser Met Tyr Leu Val Thr Ile Leu Gly Asn Leu
 50 55 60

Leu Ile Leu Leu Ala Val Ile Ser Asp Ser His Leu His Thr Pro Met
 65 70 75 80

Tyr Phe Phe Leu Ser Asn Leu Ser Phe Leu Asp Ile Cys Leu Ser Thr
 85 90 95

Thr Thr Ile Pro Lys Met Leu Val Asn Ile Gln Ala Gln Asn Arg Ser
 100 105 110

Ile Thr Tyr Ser Gly Cys Leu Thr Gln Ile Cys Phe Val Leu Phe Phe
 115 120 125

Ala Gly Leu Glu Asn Cys Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr
 130 135 140

Val Ala Ile Cys His Pro Leu Arg Tyr Thr Val Ile Met Asn Pro Arg
145 150 155 160

Leu Cys Gly Leu Leu Ile Leu Leu Ser Leu Leu Thr Ser Val Val Asn
165 170 175

Ala Leu Leu Leu Ser Leu Met Val Leu Arg Leu Ser Phe Cys Thr Asp
180 185 190

Leu Glu Ile Pro Leu Phe Phe Cys Glu Leu Ala Gln Val Ile Gln Leu
195 200 205

Thr Cys Ser Asp Thr Leu Ile Asn Asn Ile Leu Ile Tyr Phe Ala Ala
210 215 220

Cys Ile Phe Gly Gly Val Pro Leu Ser Gly Ile Ile Leu Ser Tyr Thr
225 230 235 240

Gln Ile Thr Ser Cys Val Leu Arg Met Pro Ser Ala Ser Gly Lys His
245 250 255

Lys Ala Val Ser Thr Cys Gly Ser His Leu Ser Ile Val Leu Leu Phe
260 265 270

Tyr Gly Ala Gly Leu Gly Val Tyr Ile Ser Ser Val Val Thr Asp Ser
275 280 285

Pro Arg Lys Thr Ala Val Ala Ser Val Met Tyr Ser Val Phe Pro Gln
290 295 300

Met Val Asn Pro Phe Ile Tyr Ser Leu Arg Asn Lys Asp Met Lys Gly
305 310 315 320

Thr Leu Arg Lys Phe Ile Gly Arg Ile Pro Ser Leu Leu Trp Cys Ala
325 330 335

Ile Cys Phe Gly Phe Arg Phe Leu Glu
340 345

<210> 107

<211> 942

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (939)

<223>

<400> 107

atg	ctg	ctg	act	gat	aga	aat	aca	agt	ggg	acc	acg	ttc	acc	ctc	ttg	48
Met	Leu	Leu	Thr	Asp	Arg	Asn	Thr	Ser	Gly	Thr	Thr	Phe	Thr	Leu	Leu	
1				5					10					15		
ggc	ttc	tca	gat	tac	cca	gaa	ctg	caa	gtc	cca	ctc	ttc	ctg	gtt	ttt	96
Gly	Phe	Ser	Asp	Tyr	Pro	Glu	Leu	Gln	Val	Pro	Leu	Phe	Leu	Val	Phe	
			20					25					30			
ctg	gcc	atc	tac	aat	gtc	act	gtg	cta	ggg	aat	att	ggg	ttg	att	gtg	144
Leu	Ala	Ile	Tyr	Asn	Val	Thr	Val	Leu	Gly	Asn	Ile	Gly	Leu	Ile	Val	
			35				40					45				
atc	atc	aaa	atc	aac	ccc	aaa	ctg	cat	acc	ccc	atg	tac	ttt	ttc	ctc	192
Ile	Ile	Lys	Ile	Asn	Pro	Lys	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	
			50			55					60					
agc	caa	ctc	tcc	ttt	gtg	gat	ttc	tgc	tat	tcc	tcc	atc	att	gct	ccc	240
Ser	Gln	Leu	Ser	Phe	Val	Asp	Phe	Cys	Tyr	Ser	Ser	Ile	Ile	Ala	Pro	
65					70					75					80	
aag	atg	ttg	gtg	aac	ctt	gtt	gtc	aaa	gac	aga	acc	att	tca	ttt	tta	288
Lys	Met	Leu	Val	Asn	Leu	Val	Val	Lys	Asp	Arg	Thr	Ile	Ser	Phe	Leu	
				85					90					95		
gga	tgc	gta	gta	caa	ttc	ttt	ttc	ttc	tgt	acc	ttt	gtg	gtc	act	gaa	336
Gly	Cys	Val	Val	Gln	Phe	Phe	Phe	Phe	Cys	Thr	Phe	Val	Val	Thr	Glu	
				100				105					110			
tcc	ttt	tta	tta	gct	gtg	atg	gcc	tat	gac	cgc	ttc	gtg	gcc	att	tgc	384
Ser	Phe	Leu	Leu	Ala	Val	Met	Ala	Tyr	Asp	Arg	Phe	Val	Ala	Ile	Cys	
				115			120					125				
aac	cct	ctg	ctc	tac	aca	gtt	aac	atg	tcc	cag	aaa	ctc	tgc	gtg	ctg	432
Asn	Pro	Leu	Leu	Tyr	Thr	Val	Asn	Met	Ser	Gln	Lys	Leu	Cys	Val	Leu	
				130			135				140					
ctg	gtt	gtg	gga	tcc	tat	gcc	tgg	gga	gtc	tca	tgt	tcc	ttg	gaa	ctg	480
Leu	Val	Val	Gly	Ser	Tyr	Ala	Trp	Gly	Val	Ser	Cys	Ser	Leu	Glu	Leu	
145					150					155					160	
acg	tgc	tct	gct	tta	aag	tta	tgt	ttt	cat	ggt	ttc	aac	aca	atc	aat	528
Thr	Cys	Ser	Ala	Leu	Lys	Leu	Cys	Phe	His	Gly	Phe	Asn	Thr	Ile	Asn	
				165					170					175		
cac	ttc	ttc	tgt	gag	ttc	tcc	tca	cta	ctc	tcc	ctt	tct	tgc	tct	gat	576
His	Phe	Phe	Cys	Glu	Phe	Ser	Ser	Leu	Leu	Ser	Leu	Ser	Cys	Ser	Asp	
				180				185					190			
act	tac	atc	aac	cag	tgg	ctg	cta	ttc	ttt	ctt	gcc	acc	ttt	aat	gaa	624
Thr	Tyr	Ile	Asn	Gln	Trp	Leu	Leu	Phe	Phe	Leu	Ala	Thr	Phe	Asn	Glu	
				195			200					205				
atc	agc	aca	cta	ctc	atc	gtt	ctc	aca	tct	tat	gcg	ttc	att	gtt	gta	672
Ile	Ser	Thr	Leu	Leu	Ile	Val	Leu	Thr	Ser	Tyr	Ala	Phe	Ile	Val	Val	
				210			215				220					
acc	atc	ctc	aag	atg	cgt	tca	gtc	agt	ggg	cgc	cgc	aaa	gcc	ttc	tcc	720
Thr	Ile	Leu	Lys	Met	Arg	Ser	Val	Ser	Gly	Arg	Arg	Lys	Ala	Phe	Ser	
225					230					235					240	

acc tgt gcc tcc cac ctg act gcc atc acc atc ttc cat ggc acc atc 768
 Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr Ile
 245 250 255

ctc ttc ctt tac tgt gtg ccc aac tcc aaa aac tcc agg cac aca gtc 816
 Leu Phe Leu Tyr Cys Val Pro Asn Ser Lys Asn Ser Arg His Thr Val
 260 265 270

aaa gtg gcc tct gtg ttt tac acc gtg gtg atc ccc atg ttg aat ccc 864
 Lys Val Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro
 275 280 285

ctg atc tac agt ctg aga aat aaa gat gtc aag gat aca gtc acc gag 912
 Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Thr Val Thr Glu
 290 295 300

ata ctg gac acc aaa gtc ttc tct tac tga 942
 Ile Leu Asp Thr Lys Val Phe Ser Tyr
 305 310

<210> 108

<211> 313

<212> PRT

<213> Homo Sapiens

<400> 108

Met Leu Leu Thr Asp Arg Asn Thr Ser Gly Thr Thr Phe Thr Leu Leu
 1 5 10 15

Gly Phe Ser Asp Tyr Pro Glu Leu Gln Val Pro Leu Phe Leu Val Phe
 20 25 30

Leu Ala Ile Tyr Asn Val Thr Val Leu Gly Asn Ile Gly Leu Ile Val
 35 40 45

Ile Ile Lys Ile Asn Pro Lys Leu His Thr Pro Met Tyr Phe Phe Leu
 50 55 60

Ser Gln Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Ile Ala Pro
 65 70 75 80

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

Gly Cys Val Val Gln Phe Phe Phe Phe Cys Thr Phe Val Val Thr Glu
 100 105 110

Ser Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys
 115 120 125

Asn Pro Leu Leu Tyr Thr Val Asn Met Ser Gln Lys Leu Cys Val Leu
 130 135 140

Leu Val Val Gly Ser Tyr Ala Trp Gly Val Ser Cys Ser Leu Glu Leu
 145 150 155 160

Thr Cys Ser Ala Leu Lys Leu Cys Phe His Gly Phe Asn Thr Ile Asn
 165 170 175

His Phe Phe Cys Glu Phe Ser Ser Leu Leu Ser Leu Ser Cys Ser Asp
 180 185 190

Thr Tyr Ile Asn Gln Trp Leu Leu Phe Phe Leu Ala Thr Phe Asn Glu
 195 200 205

Ile Ser Thr Leu Leu Ile Val Leu Thr Ser Tyr Ala Phe Ile Val Val
 210 215 220

Thr Ile Leu Lys Met Arg Ser Val Ser Gly Arg Arg Lys Ala Phe Ser
 225 230 235 240

Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr Ile
 245 250 255

Leu Phe Leu Tyr Cys Val Pro Asn Ser Lys Asn Ser Arg His Thr Val
 260 265 270

Lys Val Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro
 275 280 285

Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Thr Val Thr Glu
 290 295 300

Ile Leu Asp Thr Lys Val Phe Ser Tyr
 305 310

<210> 109

<211> 987

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (984)

<223>

<400> 109

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ttg ggc ttc tca gat tac ctg gaa ctg caa att ccc ctc ttc ttt gta Leu Gly Phe Ser Asp Tyr Leu Glu Leu Gln Ile Pro Leu Phe Phe Val 20 25 30	96
ttt ctg gca gtc tac ggc ttc agt gtg gta ggg aat ctt ggg atg ata Phe Leu Ala Val Tyr Gly Phe Ser Val Val Gly Asn Leu Gly Met Ile 35 40 45	144
gtg atc atc aaa att aac cca aaa ttg cat acc ccc atg tat ttt ttc Val Ile Ile Lys Ile Asn Pro Lys Leu His Thr Pro Met Tyr Phe Phe 50 55 60	192
ctc aac cac ctc tcc ttt gtg gat ttc tgc tat tcc tcc atc att gct Leu Asn His Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Ile Ala 65 70 75 80	240
ccc atg atg ctg gtg aac ctg gtt gta gaa gat aga acc att tca ttc Pro Met Met Leu Val Asn Leu Val Val Glu Asp Arg Thr Ile Ser Phe 85 90 95	288
tca gga tgt ttg gtg caa ttc ttt ttc ttt tgc acc ttt gta gtg act Ser Gly Cys Leu Val Gln Phe Phe Phe Phe Cys Thr Phe Val Val Thr 100 105 110	336
gaa tta att cta ttt gcg gtg atg gcc tat gac cac ttt gtg gcc att Glu Leu Ile Leu Phe Ala Val Met Ala Tyr Asp His Phe Val Ala Ile 115 120 125	384
tgc aat cct ctg ctc tac aca gtt gcc atc tcc cag aaa ctc tgt gcc Cys Asn Pro Leu Leu Tyr Thr Val Ala Ile Ser Gln Lys Leu Cys Ala 130 135 140	432
atg ctg gtg gtt gta ttg tat gca tgg gga gtc gca tgt tcc ctg aca Met Leu Val Val Val Leu Tyr Ala Trp Gly Val Ala Cys Ser Leu Thr 145 150 155 160	480
ctc gcg tgc tct gct tta aag tta tct ttt cat ggt ttc aac aca atc Leu Ala Cys Ser Ala Leu Lys Leu Ser Phe His Gly Phe Asn Thr Ile 165 170 175	528
aat cat ttc ttc tgt gag tta tcc tcc ctg ata tca ctc tct tac cct Asn His Phe Phe Cys Glu Leu Ser Ser Leu Ile Ser Leu Ser Tyr Pro 180 185 190	576
gac tct tat ctc agc cag ttg ctt ctt ttc act gtt gcc act ttt aat Asp Ser Tyr Leu Ser Gln Leu Leu Leu Phe Thr Val Ala Thr Phe Asn 195 200 205	624
gag ata agc aca cta ctc atc att ctg aca tct tat gca ttc atc att Glu Ile Ser Thr Leu Leu Ile Ile Leu Thr Ser Tyr Ala Phe Ile Ile 210 215 220	672
gtc acc acc ttg aag atg cct tca gcc agt ggg cac cgc aaa gtc ttc Val Thr Thr Leu Lys Met Pro Ser Ala Ser Gly His Arg Lys Val Phe 225 230 235 240	720
tcc acc tgt gcc tcc cac ctg act gcc atc acc atc ttc cat ggc acc Ser Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr 245 250 255	768
atc ctc ttc ctc tac tgt gta ccc aac tcc aaa aac tcc agg cac aca Ile Leu Phe Leu Tyr Cys Val Pro Asn Ser Lys Asn Ser Arg His Thr 260 265 270	816

gtc aaa gtg gcc tct gtg ttt tac acc gtg gtg atc ccc ttg ttg aat 864
 Val Lys Val Ala Ser Val Phe Tyr Thr Val Val Ile Pro Leu Leu Asn
 275 280 285

ccc ctg atc tac agt ctg aga aat aaa gat gtt aag gat gca atc cga 912
 Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Ala Ile Arg
 290 295 300

aaa ata atc aat aca aaa tat ttt cat att aaa cat agg cat tgg tat 960
 Lys Ile Ile Asn Thr Lys Tyr Phe His Ile Lys His Arg His Trp Tyr
 305 310 315 320

cca ttt aat ttt gtt att gaa caa taa 987
 Pro Phe Asn Phe Val Ile Glu Gln
 325

<210> 110

<211> 328

<212> PRT

<213> Homo Sapiens

<400> 110

Met Phe Leu Thr Glu Arg Asn Thr Thr Ser Glu Ala Thr Phe Thr Leu
 1 5 10 15

Leu Gly Phe Ser Asp Tyr Leu Glu Leu Gln Ile Pro Leu Phe Phe Val
 20 25 30

Phe Leu Ala Val Tyr Gly Phe Ser Val Val Gly Asn Leu Gly Met Ile
 35 40 45

Val Ile Ile Lys Ile Asn Pro Lys Leu His Thr Pro Met Tyr Phe Phe
 50 55 60

Leu Asn His Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Ile Ala
 65 70 75 80

Pro Met Met Leu Val Asn Leu Val Val Glu Asp Arg Thr Ile Ser Phe
 85 90 95

Ser Gly Cys Leu Val Gln Phe Phe Phe Phe Cys Thr Phe Val Val Thr
 100 105 110

Glu Leu Ile Leu Phe Ala Val Met Ala Tyr Asp His Phe Val Ala Ile
 115 120 125

Cys Asn Pro Leu Leu Tyr Thr Val Ala Ile Ser Gln Lys Leu Cys Ala
 130 135 140

Met Leu Val Val Val Leu Tyr Ala Trp Gly Val Ala Cys Ser Leu Thr

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

Pro Phe Asn Phe Val Ile Glu Gln
 325

<210> 111

<211> 945

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(942)

<223>

<400> 111

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tta ggt ttc aca gat tac cca aag ctt cag att cct ctc ttc ctt gtg Leu Gly Phe Thr Asp Tyr Pro Lys Leu Gln Ile Pro Leu Phe Leu Val 20 25 30	96
ttt ctg ctc atg tat gtt atc aca gtg gta gga aac ctt ggg atg atc Phe Leu Leu Met Tyr Val Ile Thr Val Val Gly Asn Leu Gly Met Ile 35 40 45	144
ata ata atc aag att aac ccc aaa ttt cac act cct atg tac ttt ttc Ile Ile Ile Lys Ile Asn Pro Lys Phe His Thr Pro Met Tyr Phe Phe 50 55 60	192
ctt agt cac ctc tct ttt gtt gat ttt tgt tac tct tcc att gtc act Leu Ser His Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Val Thr 65 70 75 80	240
ccc aag ctg ctt gag aac ttg gta atg gca gat aaa agc atc ttc tac Pro Lys Leu Leu Glu Asn Leu Val Met Ala Asp Lys Ser Ile Phe Tyr 85 90 95	288
ttt agc tgc atg atg cag tac ttc ctg tcc tgc act gct gtg gtg aca Phe Ser Cys Met Met Gln Tyr Phe Leu Ser Cys Thr Ala Val Val Thr 100 105 110	336
gag tct ttc ttg ctg gca gtg atg gcc tat gac cgc ttt gtg gcc atc Glu Ser Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile 115 120 125	384
tgc aat cct ctg ctt tat aca gtg gcc atg tca cag agg ctc tgt gcc Cys Asn Pro Leu Leu Tyr Thr Val Ala Met Ser Gln Arg Leu Cys Ala 130 135 140	432
ctg ctg gtg gct ggg tca tat ctc tgg ggc atg ttt ggc ccc ttg gta Leu Leu Val Ala Gly Ser Tyr Leu Trp Gly Met Phe Gly Pro Leu Val 145 150 155 160	480
ctc ctt tgt tat gct ctc cgg tta aac ttc tct gga cct aat gta atc Leu Leu Cys Tyr Ala Leu Arg Leu Asn Phe Ser Gly Pro Asn Val Ile 165 170 175	528
aac cac ttc ttt tgt gag tat act gct ctc atc tct gtg tct ggc tct Asn His Phe Phe Cys Glu Tyr Thr Ala Leu Ile Ser Val Ser Gly Ser 180 185 190	576
gat ata ctc atc ccc cac ctg ctg ctt ttc agc ttc gcc acc ttc aat Asp Ile Leu Ile Pro His Leu Leu Leu Phe Ser Phe Ala Thr Phe Asn 195 200 205	624
gag atg tgt aca cta ctg atc atc ctc act tcc tat gtt ttc att ttt Glu Met Cys Thr Leu Leu Ile Ile Leu Thr Ser Tyr Val Phe Ile Phe 210 215 220	672
gtg act gta cta aaa atc cgt tct gtt agt ggg cgc cac aaa gcc ttc Val Thr Val Leu Lys Ile Arg Ser Val Ser Gly Arg His Lys Ala Phe 225 230 235 240	720
tcc acc tgg gcc tcc cac ctg act tct atc acc atc ttc cat ggg acc Ser Thr Trp Ala Ser His Leu Thr Ser Ile Thr Ile Phe His Gly Thr 245 250 255	768
atc ctt ttc ctt tac tgt gta ccc aac tcc aaa aac tct cgg caa aca Ile Leu Phe Leu Tyr Cys Val Pro Asn Ser Lys Asn Ser Arg Gln Thr 260 265 270	816

gtc aaa gtg gcc tct gta ttt tac aca gtt gtc aac ccc atg ctg aac 864
 Val Lys Val Ala Ser Val Phe Tyr Thr Val Val Asn Pro Met Leu Asn
 275 280 285

cct ctg atc tac agc cta agg aat aaa gac gtg aag gat gct ttc tgg 912
 Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Ala Phe Trp
 290 295 300

aag tta ata cat aca caa gtt cca ttt cac tga 945
 Lys Leu Ile His Thr Gln Val Pro Phe His
 305 310

<210> 112

<211> 314

<212> PRT

<213> Homo Sapiens

<400> 112

Met Met Met Val Leu Arg Asn Leu Ser Met Glu Pro Thr Phe Ala Leu
 1 5 10 15

Leu Gly Phe Thr Asp Tyr Pro Lys Leu Gln Ile Pro Leu Phe Leu Val
 20 25 30

Phe Leu Leu Met Tyr Val Ile Thr Val Val Gly Asn Leu Gly Met Ile
 35 40 45

Ile Ile Ile Lys Ile Asn Pro Lys Phe His Thr Pro Met Tyr Phe Phe
 50 55 60

Leu Ser His Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Val Thr
 65 70 75 80

Pro Lys Leu Leu Glu Asn Leu Val Met Ala Asp Lys Ser Ile Phe Tyr
 85 90 95

Phe Ser Cys Met Met Gln Tyr Phe Leu Ser Cys Thr Ala Val Val Thr
 100 105 110

Glu Ser Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile
 115 120 125

Cys Asn Pro Leu Leu Tyr Thr Val Ala Met Ser Gln Arg Leu Cys Ala
 130 135 140

Leu Leu Val Ala Gly Ser Tyr Leu Trp Gly Met Phe Gly Pro Leu Val
 145 150 155 160

Leu Leu Cys Tyr Ala Leu Arg Leu Asn Phe Ser Gly Pro Asn Val Ile

	165		170		175
Asn His Phe Phe Cys Glu Tyr Thr Ala Leu Ile Ser Val Ser Gly Ser	180		185		190
Asp Ile Leu Ile Pro His Leu Leu Leu Phe Ser Phe Ala Thr Phe Asn	195		200		205
Glu Met Cys Thr Leu Leu Ile Ile Leu Thr Ser Tyr Val Phe Ile Phe	210		215		220
Val Thr Val Leu Lys Ile Arg Ser Val Ser Gly Arg His Lys Ala Phe	225		230		235
Ser Thr Trp Ala Ser His Leu Thr Ser Ile Thr Ile Phe His Gly Thr	245		250		255
Ile Leu Phe Leu Tyr Cys Val Pro Asn Ser Lys Asn Ser Arg Gln Thr	260		265		270
Val Lys Val Ala Ser Val Phe Tyr Thr Val Val Asn Pro Met Leu Asn	275		280		285
Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Ala Phe Trp	290		295		300
Lys Leu Ile His Thr Gln Val Pro Phe His	305		310		

<210> 113

<211> 975

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (972)

<223>

<400> 113

atg ttg gag agt aat tac acc atg cca act gag ttc cta ttt gtt gga	48
Met Leu Glu Ser Asn Tyr Thr Met Pro Thr Glu Phe Leu Phe Val Gly	
1 5 10 15	

ttc aca gat tat cta cct ctc aga gtc aca ctg ttc ttg gta ttc ctt	96
Phe Thr Asp Tyr Leu Pro Leu Arg Val Thr Leu Phe Leu Val Phe Leu	
20 25 30	

ctg gta tat aca tta act atg gtc gga aat ata ctc tta ata att cta Leu Val Tyr Thr Leu Thr Met Val Gly Asn Ile Leu Leu Ile Ile Leu 35 40 45	144
gtt aat att aat tca agc ctt caa att ccc atg tat tat ttt ctt agc Val Asn Ile Asn Ser Ser Leu Gln Ile Pro Met Tyr Tyr Phe Leu Ser 50 55 60	192
aac tta tct ttc tta gac atc agc tgt tct aca gca atc act cct aaa Asn Leu Ser Phe Leu Asp Ile Ser Cys Ser Thr Ala Ile Thr Pro Lys 65 70 75 80	240
atg ctg gca aac ttc ttg gca tcc agg aaa agc atc tct cct tat ggg Met Leu Ala Asn Phe Leu Ala Ser Arg Lys Ser Ile Ser Pro Tyr Gly 85 90 95	288
tgt gca cta caa atg ttt ttc ttc gct tct ttt gct gat gct gag tgc Cys Ala Leu Gln Met Phe Phe Phe Ala Ser Phe Ala Asp Ala Glu Cys 100 105 110	336
ctt atc ctg gca gca atg gct tat gac cgc tat gca gcc atc tgc aac Leu Ile Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Asn 115 120 125	384
cca ctg ctc tat act aca ctg atg tct agg aga gtc tgt gtc tgc ttc Pro Leu Leu Tyr Thr Thr Leu Met Ser Arg Arg Val Cys Val Cys Phe 130 135 140	432
att gtg ttg gca tat ttc agt gga agt aca aca tca ctg gtc cat gtg Ile Val Leu Ala Tyr Phe Ser Gly Ser Thr Thr Ser Leu Val His Val 145 150 155 160	480
tgc ctc aca ttc agg ctg tca ttt tgt ggc tcc aat atc gtc aat cat Cys Leu Thr Phe Arg Leu Ser Phe Cys Gly Ser Asn Ile Val Asn His 165 170 175	528
ttt ttc tgt gat atc cca cct ctt ctg gct tta tca tgt aca gac act Phe Phe Cys Asp Ile Pro Pro Leu Leu Ala Leu Ser Cys Thr Asp Thr 180 185 190	576
cag atc aac cag ctt ctg ctc ttt gct ttg tgc agc ttc atc cag acc Gln Ile Asn Gln Leu Leu Leu Phe Ala Leu Cys Ser Phe Ile Gln Thr 195 200 205	624
agc act ttt gtg gta ata ttt att tct tac ttc tgc atc ctc atc act Ser Thr Phe Val Val Ile Phe Ile Ser Tyr Phe Cys Ile Leu Ile Thr 210 215 220	672
gtg ttg agc atc aag tcc tca ggt ggc aga agc aaa aca ttc tcc act Val Leu Ser Ile Lys Ser Ser Gly Gly Arg Ser Lys Thr Phe Ser Thr 225 230 235 240	720
tgt gct tcc cac ctc ata gca gtc acc tta ttc tat gga gcg ctc ctg Cys Ala Ser His Leu Ile Ala Val Thr Leu Phe Tyr Gly Ala Leu Leu 245 250 255	768
ttt atg tac tta cag ccc acc act agc tat tcc cta gac act gat aag Phe Met Tyr Leu Gln Pro Thr Thr Ser Tyr Ser Leu Asp Thr Asp Lys 260 265 270	816
gtg gtg gca gtg ttt tat act gtt gta ttt ccc atg ttt aat cca ata Val Val Ala Val Phe Tyr Thr Val Val Phe Pro Met Phe Asn Pro Ile 275 280 285	864
att tat agt ttc aga aac aag gat gtg aaa aat gct ctc aaa aag cta Ile Tyr Ser Phe Arg Asn Lys Asp Val Lys Asn Ala Leu Lys Lys Leu	912

290	295	300	
tta gaa aga att gga tat tca aat gaa tgg tat tta aat cgt tta aga			960
Leu Glu Arg Ile Gly Tyr Ser Asn Glu Trp Tyr Leu Asn Arg Leu Arg			
305	310	315	320
ata gtc aat atc taa			975
Ile Val Asn Ile			

<210> 114

<211> 324

<212> PRT

<213> Homo Sapiens

<400> 114

Met Leu Glu Ser Asn Tyr Thr Met Pro Thr Glu Phe Leu Phe Val Gly	
1 5 10 15	
Phe Thr Asp Tyr Leu Pro Leu Arg Val Thr Leu Phe Leu Val Phe Leu	
20 25 30	
Leu Val Tyr Thr Leu Thr Met Val Gly Asn Ile Leu Leu Ile Ile Leu	
35 40 45	
Val Asn Ile Asn Ser Ser Leu Gln Ile Pro Met Tyr Tyr Phe Leu Ser	
50 55 60	
Asn Leu Ser Phe Leu Asp Ile Ser Cys Ser Thr Ala Ile Thr Pro Lys	
65 70 75 80	
Met Leu Ala Asn Phe Leu Ala Ser Arg Lys Ser Ile Ser Pro Tyr Gly	
85 90 95	
Cys Ala Leu Gln Met Phe Phe Phe Ala Ser Phe Ala Asp Ala Glu Cys	
100 105 110	
Leu Ile Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Asn	
115 120 125	
Pro Leu Leu Tyr Thr Thr Leu Met Ser Arg Arg Val Cys Val Cys Phe	
130 135 140	
Ile Val Leu Ala Tyr Phe Ser Gly Ser Thr Thr Ser Leu Val His Val	
145 150 155 160	
Cys Leu Thr Phe Arg Leu Ser Phe Cys Gly Ser Asn Ile Val Asn His	
165 170 175	

Phe Phe Cys Asp Ile Pro Pro Leu Leu Ala Leu Ser Cys Thr Asp Thr
 180 185 190

Gln Ile Asn Gln Leu Leu Leu Phe Ala Leu Cys Ser Phe Ile Gln Thr
 195 200 205

Ser Thr Phe Val Val Ile Phe Ile Ser Tyr Phe Cys Ile Leu Ile Thr
 210 215 220

Val Leu Ser Ile Lys Ser Ser Gly Gly Arg Ser Lys Thr Phe Ser Thr
 225 230 235 240

Cys Ala Ser His Leu Ile Ala Val Thr Leu Phe Tyr Gly Ala Leu Leu
 245 250 255

Phe Met Tyr Leu Gln Pro Thr Thr Ser Tyr Ser Leu Asp Thr Asp Lys
 260 265 270

Val Val Ala Val Phe Tyr Thr Val Val Phe Pro Met Phe Asn Pro Ile
 275 280 285

Ile Tyr Ser Phe Arg Asn Lys Asp Val Lys Asn Ala Leu Lys Lys Leu
 290 295 300

Leu Glu Arg Ile Gly Tyr Ser Asn Glu Trp Tyr Leu Asn Arg Leu Arg
 305 310 315 320

Ile Val Asn Ile

<210> 115

<211> 948

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(945)

<223>

<400> 115

atg gct cct gaa aat ttc acc agg gtc act gag ttt att ctc aca ggt 48
 Met Ala Pro Glu Asn Phe Thr Arg Val Thr Glu Phe Ile Leu Thr Gly
 1 5 10 15

gtc tct agc tgt cca gag ctc cag att ccc ctc ttc ctg gtc ttc cta 96
 Val Ser Ser Cys Pro Glu Leu Gln Ile Pro Leu Phe Leu Val Phe Leu

20						25						30						
gtg	ctc	tat	gtg	ctg	acc	atg	gca	ggg	aac	ctg	ggc	atc	atc	acc	ctc	144		
Val	Leu	Tyr	Val	Leu	Thr	Met	Ala	Gly	Asn	Leu	Gly	Ile	Ile	Thr	Leu			
		35					40					45						
acc	agt	gtt	gac	tct	cga	ctt	caa	acc	ccc	atg	tac	ttt	ttc	ctg	aga	192		
Thr	Ser	Val	Asp	Ser	Arg	Leu	Gln	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Arg			
	50					55					60							
cat	cta	gct	atc	atc	aat	ctt	ggc	aac	tct	act	gtc	att	gcc	cct	aaa	240		
His	Leu	Ala	Ile	Ile	Asn	Leu	Gly	Asn	Ser	Thr	Val	Ile	Ala	Pro	Lys			
65					70					75					80			
atg	ctg	atg	aac	ttt	tta	gta	aag	aag	aaa	act	acc	tca	ttc	tat	gaa	288		
Met	Leu	Met	Asn	Phe	Leu	Val	Lys	Lys	Lys	Thr	Thr	Ser	Phe	Tyr	Glu			
				85					90					95				
tgt	gcc	acc	caa	ctg	gga	ggg	ttc	ttg	ttc	ttt	att	gta	tcg	gag	gta	336		
Cys	Ala	Thr	Gln	Leu	Gly	Gly	Phe	Leu	Phe	Phe	Ile	Val	Ser	Glu	Val			
			100					105					110					
atg	atg	ctg	gct	gtg	atg	gcc	tat	gac	cgc	tat	gtg	gcc	att	tgt	aac	384		
Met	Met	Leu	Ala	Val	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Asn			
		115					120					125						
cct	ctg	ctc	tac	atg	gtg	gtg	gtg	tct	cgg	cgg	ctc	tgc	ctc	ctg	ctg	432		
Pro	Leu	Leu	Tyr	Met	Val	Val	Val	Ser	Arg	Arg	Leu	Cys	Leu	Leu	Leu			
	130					135					140							
gtg	tcc	ctc	acg	tac	ctc	tat	ggc	ttt	tct	aca	gct	att	gtg	gtt	tca	480		
Val	Ser	Leu	Thr	Tyr	Leu	Tyr	Gly	Phe	Ser	Thr	Ala	Ile	Val	Val	Ser			
145					150					155					160			
cct	tgt	ata	ttc	tct	gtg	tct	tat	tgc	tct	tct	aat	ata	atc	aat	cat	528		
Pro	Cys	Ile	Phe	Ser	Val	Ser	Tyr	Cys	Ser	Ser	Asn	Ile	Ile	Asn	His			
				165					170					175				
ttt	tac	tgt	gat	att	gca	cct	ctg	tta	gca	tta	tct	tgc	tct	gat	act	576		
Phe	Tyr	Cys	Asp	Ile	Ala	Pro	Leu	Leu	Ala	Leu	Ser	Cys	Ser	Asp	Thr			
			180				185						190					
tac	ata	cca	gaa	aca	ata	gtc	ttt	ata	tct	gca	gca	aca	aat	ttg	ttt	624		
Tyr	Ile	Pro	Glu	Thr	Ile	Val	Phe	Ile	Ser	Ala	Ala	Thr	Asn	Leu	Phe			
		195					200					205						
ttt	tcc	atg	att	aca	gtt	cta	gta	tct	tat	ttc	aat	att	gtt	ttg	tcc	672		
Phe	Ser	Met	Ile	Thr	Val	Leu	Val	Ser	Tyr	Phe	Asn	Ile	Val	Leu	Ser			
	210					215					220							
att	cta	agg	ata	cgt	tca	cca	gaa	gga	agg	aaa	aaa	gcc	ttt	tcc	acc	720		
Ile	Leu	Arg	Ile	Arg	Ser	Pro	Glu	Gly	Arg	Lys	Lys	Ala	Phe	Ser	Thr			
225					230					235					240			
tgc	gct	tcg	cat	atg	ata	gca	gtc	acg	gtt	ttc	tat	ggg	aca	atg	cta	768		
Cys	Ala	Ser	His	Met	Ile	Ala	Val	Thr	Val	Phe	Tyr	Gly	Thr	Met	Leu			
				245					250					255				
ttt	atg	tat	ttg	cag	ccc	caa	acc	aac	cac	tca	ctg	gat	act	gat	aag	816		
Phe	Met	Tyr	Leu	Gln	Pro	Gln	Thr	Asn	His	Ser	Leu	Asp	Thr	Asp	Lys			
			260					265					270					
atg	gct	tct	gtg	ttt	tac	aca	ttg	gtg	att	cct	atg	ctg	aat	ccc	ttg	864		
Met	Ala	Ser	Val	Phe	Tyr	Thr	Leu	Val	Ile	Pro	Met	Leu	Asn	Pro	Leu			
		275					280					285						
atc	tac	agc	ctg	agg	aat	aat	gat	gta	aat	gtt	gcc	tta	aag	aaa	ttc	912		

Ile Tyr Ser Leu Arg Asn Asn Asp Val Asn Val Ala Leu Lys Lys Phe
 290 295 300

atg gaa aat cca tgt tac tcc ttt aaa tca atg taa
 Met Glu Asn Pro Cys Tyr Ser Phe Lys Ser Met
 305 310 315

948

<210> 116

<211> 315

<212> PRT

<213> Homo Sapiens

<400> 116

Met Ala Pro Glu Asn Phe Thr Arg Val Thr Glu Phe Ile Leu Thr Gly
 1 5 10 15

Val Ser Ser Cys Pro Glu Leu Gln Ile Pro Leu Phe Leu Val Phe Leu
 20 25 30

Val Leu Tyr Val Leu Thr Met Ala Gly Asn Leu Gly Ile Ile Thr Leu
 35 40 45

Thr Ser Val Asp Ser Arg Leu Gln Thr Pro Met Tyr Phe Phe Leu Arg
 50 55 60

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

Met Leu Met Asn Phe Leu Val Lys Lys Lys Thr Thr Ser Phe Tyr Glu
 85 90 95

Cys Ala Thr Gln Leu Gly Gly Phe Leu Phe Phe Ile Val Ser Glu Val
 100 105 110

Met Met Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
 115 120 125

Pro Leu Leu Tyr Met Val Val Val Ser Arg Arg Leu Cys Leu Leu Leu
 130 135 140

Val Ser Leu Thr Tyr Leu Tyr Gly Phe Ser Thr Ala Ile Val Val Ser
 145 150 155 160

Pro Cys Ile Phe Ser Val Ser Tyr Cys Ser Ser Asn Ile Ile Asn His
 165 170 175

Phe Tyr Cys Asp Ile Ala Pro Leu Leu Ala Leu Ser Cys Ser Asp Thr
 180 185 190

Tyr Ile Pro Glu Thr Ile Val Phe Ile Ser Ala Ala Thr Asn Leu Phe
 195 200 205

Phe Ser Met Ile Thr Val Leu Val Ser Tyr Phe Asn Ile Val Leu Ser
 210 215 220

Ile Leu Arg Ile Arg Ser Pro Glu Gly Arg Lys Lys Ala Phe Ser Thr
 225 230 235 240

Cys Ala Ser His Met Ile Ala Val Thr Val Phe Tyr Gly Thr Met Leu
 245 250 255

Phe Met Tyr Leu Gln Pro Gln Thr Asn His Ser Leu Asp Thr Asp Lys
 260 265 270

Met Ala Ser Val Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro Leu
 275 280 285

Ile Tyr Ser Leu Arg Asn Asn Asp Val Asn Val Ala Leu Lys Lys Phe
 290 295 300

Met Glu Asn Pro Cys Tyr Ser Phe Lys Ser Met
 305 310 315

<210> 117

<211> 936

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(933)

<223>

<400> 117

atg act ggg gga gga aat att aca gaa atc acc tat ttc atc ctg ctg 48
 Met Thr Gly Gly Gly Asn Ile Thr Glu Ile Thr Tyr Phe Ile Leu Leu
 1 5 10 15

gga ttc tca gat ttt ccc agg atc ata aaa gtg ctc ttc act ata ttc 96
 Gly Phe Ser Asp Phe Pro Arg Ile Ile Lys Val Leu Phe Thr Ile Phe
 20 25 30

ctg gtg atc tac att aca tct ctg gcc tgg aac ctc tcc ctc att gtt 144
 Leu Val Ile Tyr Ile Thr Ser Leu Ala Trp Asn Leu Ser Leu Ile Val
 35 40 45

tta ata agg atg gat tcc cac ctc cat aca ccc atg tat ttc ttc ctc 192
 Leu Ile Arg Met Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu

50	55	60	
agt aac ctg tcc ttc ata gat gtc tgc tat atc agc tcc aca gtc ccc Ser Asn Leu Ser Phe Ile Asp Val Cys Tyr Ile Ser Ser Thr Val Pro 65 70 75 80			240
aag atg ctc tcc aac ctc tta cag gaa cag caa act atc act ttt gtt Lys Met Leu Ser Asn Leu Leu Gln Glu Gln Gln Thr Ile Thr Phe Val 85 90 95			288
ggg tgt att att cag tac ttt atc ttt tca acg atg gga ctg agt gag Gly Cys Ile Ile Gln Tyr Phe Ile Phe Ser Thr Met Gly Leu Ser Glu 100 105 110			336
tct tgt ctc atg aca gcc atg gct tat gat cgt tat gct gcc att tgt Ser Cys Leu Met Thr Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys 115 120 125			384
aac ccc ctg ctc tat tca tcc atc atg tca ccc acc ctc tgt gtt tgg Asn Pro Leu Leu Tyr Ser Ser Ile Met Ser Pro Thr Leu Cys Val Trp 130 135 140			432
atg gta ctg gga gcc tac atg act ggc ctc act gct tct tta ttc caa Met Val Leu Gly Ala Tyr Met Thr Gly Leu Thr Ala Ser Leu Phe Gln 145 150 155 160			480
att ggt gct ttg ctt caa ctc cac ttc tgt ggg tct aat gtc atc aga Ile Gly Ala Leu Leu Gln Leu His Phe Cys Gly Ser Asn Val Ile Arg 165 170 175			528
cat ttc ttc tgt gac atg ccc caa ctg tta atc ttg tcc tgt act gac His Phe Phe Cys Asp Met Pro Gln Leu Leu Ile Leu Ser Cys Thr Asp 180 185 190			576
act ttc ttt gta cag gtc atg act gct ata tta acc atg ttc ttt ggg Thr Phe Phe Val Gln Val Met Thr Ala Ile Leu Thr Met Phe Phe Gly 195 200 205			624
ata gca agt gcc cta gtt atc atg ata tcc tat ggc tat att ggc atc Ile Ala Ser Ala Leu Val Ile Met Ile Ser Tyr Gly Tyr Ile Gly Ile 210 215 220			672
tcc atc atg aag atc act tca gct aaa ggc agg tcc aag gca ttc aac Ser Ile Met Lys Ile Thr Ser Ala Lys Gly Arg Ser Lys Ala Phe Asn 225 230 235 240			720
acc tgt gct tct cat cta aca gct gtt tcc ctc ttc tat aca tca gga Thr Cys Ala Ser His Leu Thr Ala Val Ser Leu Phe Tyr Thr Ser Gly 245 250 255			768
atc ttt gtc tat ttg agt tcc agc tct gga ggt tct tca agc ttt gac Ile Phe Val Tyr Leu Ser Ser Ser Ser Gly Gly Ser Ser Ser Phe Asp 260 265 270			816
aga ttt gca tct gtt ttc tac act gtg gtc att ccc atg tta aat ccc Arg Phe Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro 275 280 285			864
ttg att tac agt ttg agg aac aaa gaa att aaa gat gcc tta aag agg Leu Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Asp Ala Leu Lys Arg 290 295 300			912
ttg caa aag aga aag tgc tgc tga Leu Gln Lys Arg Lys Cys Cys 305 310			936

<210> 118

<211> 311

<212> PRT

<213> Homo Sapiens

<400> 118

Met Thr Gly Gly Gly Asn Ile Thr Glu Ile Thr Tyr Phe Ile Leu Leu
1 5 10 15

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

Leu Val Ile Tyr Ile Thr Ser Leu Ala Trp Asn Leu Ser Leu Ile Val
35 40 45

Leu Ile Arg Met Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu
50 55 60

Ser Asn Leu Ser Phe Ile Asp Val Cys Tyr Ile Ser Ser Thr Val Pro
65 70 75 80

Lys Met Leu Ser Asn Leu Leu Gln Glu Gln Gln Thr Ile Thr Phe Val
85 90 95

Gly Cys Ile Ile Gln Tyr Phe Ile Phe Ser Thr Met Gly Leu Ser Glu
100 105 110

Ser Cys Leu Met Thr Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys
115 120 125

Asn Pro Leu Leu Tyr Ser Ser Ile Met Ser Pro Thr Leu Cys Val Trp
130 135 140

Met Val Leu Gly Ala Tyr Met Thr Gly Leu Thr Ala Ser Leu Phe Gln
145 150 155 160

Ile Gly Ala Leu Leu Gln Leu His Phe Cys Gly Ser Asn Val Ile Arg
165 170 175

His Phe Phe Cys Asp Met Pro Gln Leu Leu Ile Leu Ser Cys Thr Asp
180 185 190

Thr Phe Phe Val Gln Val Met Thr Ala Ile Leu Thr Met Phe Phe Gly
195 200 205

Ile Ala Ser Ala Leu Val Ile Met Ile Ser Tyr Gly Tyr Ile Gly Ile
210 215 220

Ser Ile Met Lys Ile Thr Ser Ala Lys Gly Arg Ser Lys Ala Phe Asn
 225 230 235 240

Thr Cys Ala Ser His Leu Thr Ala Val Ser Leu Phe Tyr Thr Ser Gly
 245 250 255

Ile Phe Val Tyr Leu Ser Ser Ser Ser Gly Gly Ser Ser Ser Phe Asp
 260 265 270

Arg Phe Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro
 275 280 285

Leu Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Asp Ala Leu Lys Arg
 290 295 300

Leu Gln Lys Arg Lys Cys Cys
 305 310

<210> 119

<211> 951

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (948)

<223>

<400> 119
 atg gag aat gtc act aca atg aat gag ttt ctt cta ctt ggc ctg act 48
 Met Glu Asn Val Thr Thr Met Asn Glu Phe Leu Leu Leu Gly Leu Thr
 1 5 10 15
 ggt gtt cag gag ctg cag cct ttc ttc ttt ggg att ttc tta atc att 96
 Gly Val Gln Glu Leu Gln Pro Phe Phe Phe Gly Ile Phe Leu Ile Ile
 20 25 30
 tac ctg ata aac ttg att gga aat gga tct ata ttg gtg atg gtt gtt 144
 Tyr Leu Ile Asn Leu Ile Gly Asn Gly Ser Ile Leu Val Met Val Val
 35 40 45
 ttg gaa cca caa ctc cac tcc cct atg tat ttt ttt ctg gga aac ctt 192
 Leu Glu Pro Gln Leu His Ser Pro Met Tyr Phe Phe Leu Gly Asn Leu
 50 55 60
 tct tgt ctg gat att tct tat tct tca gtg aca ctg ccc aag ctg ctc 240
 Ser Cys Leu Asp Ile Ser Tyr Ser Ser Val Thr Leu Pro Lys Leu Leu
 65 70 75 80
 gta aac ctc gtg tgc agt cgc agg gct ata tct ttt cta ggc tgt atc 288

Val	Asn	Leu	Val	Cys	Ser	Arg	Arg	Ala	Ile	Ser	Phe	Leu	Gly	Cys	Ile		
				85					90					95			
acc	cag	cta	cac	ttc	ttc	cac	ttt	ttg	gga	agc	aca	gag	gcc	att	tta	336	
Thr	Gln	Leu	His	Phe	Phe	His	Phe	Leu	Gly	Ser	Thr	Glu	Ala	Ile	Leu		
			100					105					110				
ctg	gct	atc	atg	gcc	ttt	gac	cgt	ttt	gtt	gcc	atc	tgc	aat	cct	ctt	384	
Leu	Ala	Ile	Met	Ala	Phe	Asp	Arg	Phe	Val	Ala	Ile	Cys	Asn	Pro	Leu		
			115				120					125					
cgc	tac	act	gtc	atc	atg	aac	ccc	cag	gtg	tgt	att	ctg	ttg	gca	gct	432	
Arg	Tyr	Thr	Val	Ile	Met	Asn	Pro	Gln	Val	Cys	Ile	Leu	Leu	Ala	Ala		
	130					135					140						
gcg	gcc	tgg	ctc	atc	agc	ttc	ttt	tac	gct	ctg	atg	cat	tct	gtc	atg	480	
Ala	Ala	Trp	Leu	Ile	Ser	Phe	Phe	Tyr	Ala	Leu	Met	His	Ser	Val	Met		
145					150				155						160		
act	gca	cac	ctg	agt	ttt	tgt	ggc	tct	cag	aaa	ctc	aat	cac	ttc	ttc	528	
Thr	Ala	His	Leu	Ser	Phe	Cys	Gly	Ser	Gln	Lys	Leu	Asn	His	Phe	Phe		
				165				170						175			
tac	gat	gtc	aag	ccg	ctc	tta	gaa	ttg	gcc	tgt	agt	gac	aca	tta	ctc	576	
Tyr	Asp	Val	Lys	Pro	Leu	Leu	Glu	Leu	Ala	Cys	Ser	Asp	Thr	Leu	Leu		
			180					185					190				
aat	caa	tgg	ctt	ctt	tcc	att	gtc	aca	ggc	agc	ata	tcc	atg	gga	gct	624	
Asn	Gln	Trp	Leu	Leu	Ser	Ile	Val	Thr	Gly	Ser	Ile	Ser	Met	Gly	Ala		
		195					200					205					
ttc	ttt	ctg	act	ctt	ctc	tcc	tgc	ttc	tat	gta	att	ggc	ttc	ctt	ctg	672	
Phe	Phe	Leu	Thr	Leu	Leu	Ser	Cys	Phe	Tyr	Val	Ile	Gly	Phe	Leu	Leu		
	210					215					220						
ttt	aag	aac	agg	tcc	tgc	aga	ata	ctc	cac	aag	gct	ctg	tcc	act	tgt	720	
Phe	Lys	Asn	Arg	Ser	Cys	Arg	Ile	Leu	His	Lys	Ala	Leu	Ser	Thr	Cys		
225					230					235					240		
gcc	tcc	cat	ttt	atg	gtg	gta	tgt	ctt	ttc	tat	gga	cct	gtg	ggc	ttc	768	
Ala	Ser	His	Phe	Met	Val	Val	Cys	Leu	Phe	Tyr	Gly	Pro	Val	Gly	Phe		
				245				250					255				
aca	tat	att	cgt	cct	gct	tca	gcc	acc	tcc	atg	att	cag	gac	cgg	ata	816	
Thr	Tyr	Ile	Arg	Pro	Ala	Ser	Ala	Thr	Ser	Met	Ile	Gln	Asp	Arg	Ile		
			260				265						270				
atg	gcc	atc	atg	tat	agc	gcc	gtc	acc	cct	gta	ctg	aat	cca	cta	atc	864	
Met	Ala	Ile	Met	Tyr	Ser	Ala	Val	Thr	Pro	Val	Leu	Asn	Pro	Leu	Ile		
		275					280					285					
tac	acc	ctt	agg	aac	aaa	gaa	gtg	atg	atg	gct	ctg	aag	aaa	atc	ttt	912	
Tyr	Thr	Leu	Arg	Asn	Lys	Glu	Val	Met	Met	Ala	Leu	Lys	Lys	Ile	Phe		
	290					295					300						
ggt	agg	aag	ttg	ttt	aaa	gac	tgg	cag	caa	cac	cac	tag				951	
Gly	Arg	Lys	Leu	Phe	Lys	Asp	Trp	Gln	Gln	His	His						
305					310						315						

<210> 120

<211> 316

<212> PRT

<213> Homo Sapiens

<400> 120

Met Glu Asn Val Thr Thr Met Asn Glu Phe Leu Leu Leu Gly Leu Thr
 1 5 10 15

Gly Val Gln Glu Leu Gln Pro Phe Phe Phe Gly Ile Phe Leu Ile Ile
 20 25 30

Tyr Leu Ile Asn Leu Ile Gly Asn Gly Ser Ile Leu Val Met Val Val
 35 40 45

Leu Glu Pro Gln Leu His Ser Pro Met Tyr Phe Phe Leu Gly Asn Leu
 50 55 60

Ser Cys Leu Asp Ile Ser Tyr Ser Ser Val Thr Leu Pro Lys Leu Leu
 65 70 75 80

Val Asn Leu Val Cys Ser Arg Arg Ala Ile Ser Phe Leu Gly Cys Ile
 85 90 95

Thr Gln Leu His Phe Phe His Phe Leu Gly Ser Thr Glu Ala Ile Leu
 100 105 110

Leu Ala Ile Met Ala Phe Asp Arg Phe Val Ala Ile Cys Asn Pro Leu
 115 120 125

Arg Tyr Thr Val Ile Met Asn Pro Gln Val Cys Ile Leu Leu Ala Ala
 130 135 140

Ala Ala Trp Leu Ile Ser Phe Phe Tyr Ala Leu Met His Ser Val Met
 145 150 155 160

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

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

Asn Gln Trp Leu Leu Ser Ile Val Thr Gly Ser Ile Ser Met Gly Ala
 195 200 205

Phe Phe Leu Thr Leu Leu Ser Cys Phe Tyr Val Ile Gly Phe Leu Leu
 210 215 220

Phe Lys Asn Arg Ser Cys Arg Ile Leu His Lys Ala Leu Ser Thr Cys
 225 230 235 240

Ala Ser His Phe Met Val Val Cys Leu Phe Tyr Gly Pro Val Gly Phe
 245 250 255

Thr Tyr Ile Arg Pro Ala Ser Ala Thr Ser Met Ile Gln Asp Arg Ile
260 265 270

Met Ala Ile Met Tyr Ser Ala Val Thr Pro Val Leu Asn Pro Leu Ile
275 280 285

Tyr Thr Leu Arg Asn Lys Glu Val Met Met Ala Leu Lys Lys Ile Phe
290 295 300

Gly Arg Lys Leu Phe Lys Asp Trp Gln Gln His His
305 310 315

<210> 121

<211> 951

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(948)

<223>

<400> 121

atg gag gct gcc aat gag tct tca gag gga atc tca ttc gtt tta ttg 48
Met Glu Ala Ala Asn Glu Ser Ser Glu Gly Ile Ser Phe Val Leu Leu
1 5 10 15

gga ctg aca aca agt cct gga cag cag cgg cct ctc ttt gtg ctg ttc 96
Gly Leu Thr Thr Ser Pro Gly Gln Gln Arg Pro Leu Phe Val Leu Phe
20 25 30

ttg ctc ttg tat gtg gcc agc ctc ctg ggt aat gga ctc att gtg gct 144
Leu Leu Leu Tyr Val Ala Ser Leu Leu Gly Asn Gly Leu Ile Val Ala
35 40 45

gcc atc cag gcc agt cca gcc ctt cat gca ccc atg tac ttc ctg ctg 192
Ala Ile Gln Ala Ser Pro Ala Leu His Ala Pro Met Tyr Phe Leu Leu
50 55 60

gcc cac ctg tcc ttt gct gac ctc tgt ttc gcc tcc gtc act gtg ccc 240
Ala His Leu Ser Phe Ala Asp Leu Cys Phe Ala Ser Val Thr Val Pro
65 70 75 80

aag atg ttg gcc aac ttg ttg gcc cat gac cac tcc atc tcg ctg gct 288
Lys Met Leu Ala Asn Leu Leu Ala His Asp His Ser Ile Ser Leu Ala
85 90 95

ggc tgc ctg acc caa atg tac ttc ttc ttt gcc ctg ggg gta act gat 336
Gly Cys Leu Thr Gln Met Tyr Phe Phe Phe Ala Leu Gly Val Thr Asp
100 105 110

agc tgt ctt ctg gcg gcc atg gcc tat gac tgc tac gtg gcc atc cgg 384
 Ser Cys Leu Leu Ala Ala Met Ala Tyr Asp Cys Tyr Val Ala Ile Arg
 115 120 125
 cac ccc ctc ccc tat gcc acg agg atg tcc cgg gcc atg tgc gca gcc 432
 His Pro Leu Pro Tyr Ala Thr Arg Met Ser Arg Ala Met Cys Ala Ala
 130 135 140
 ctg gtg gga atg gca tgg ctg gtg tcc cac gtc cac tcc ctc ctg tat 480
 Leu Val Gly Met Ala Trp Leu Val Ser His Val His Ser Leu Leu Tyr
 145 150 155 160
 atc ctg ctc atg gct cgc ttg tcc ttc tgt gct tcc cac caa gtg ccc 528
 Ile Leu Leu Met Ala Arg Leu Ser Phe Cys Ala Ser His Gln Val Pro
 165 170 175
 cac ttc ttc tgt gac cac cag cct ctc tta agg ctc tgc tgc tct gac 576
 His Phe Phe Cys Asp His Gln Pro Leu Leu Arg Leu Ser Cys Ser Asp
 180 185 190
 acc cac cac atc cag ctg ctc atc ttc acc gag ggc gcc gca gtg gtg 624
 Thr His His Ile Gln Leu Leu Ile Phe Thr Glu Gly Ala Ala Val Val
 195 200 205
 gtc act ccc ttc ctg ctc atc ctc gcc tcc tat ggg gcc atc gca gct 672
 Val Thr Pro Phe Leu Leu Ile Leu Ala Ser Tyr Gly Ala Ile Ala Ala
 210 215 220
 gcc gtg ctc cag ctg ccc tca gcc tct ggg agg ctc cgg gct gtg tcc 720
 Ala Val Leu Gln Leu Pro Ser Ala Ser Gly Arg Leu Arg Ala Val Ser
 225 230 235 240
 acc tgt ggc tcc cac ctg gct gtg gtg agc ctc ttc tat ggg aca gtc 768
 Thr Cys Gly Ser His Leu Ala Val Val Ser Leu Phe Tyr Gly Thr Val
 245 250 255
 att gca gtc tac ttc cag gcc aca tcc cga cgc gag gca gag tgg ggc 816
 Ile Ala Val Tyr Phe Gln Ala Thr Ser Arg Arg Glu Ala Glu Trp Gly
 260 265 270
 cgt gtg gcc act gtc atg tac act gta gtc acc ccc atg ctg aac ccc 864
 Arg Val Ala Thr Val Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro
 275 280 285
 atc atc tac agc ctc tgg aat cgc gat gta cag ggg gca ctc cga gcc 912
 Ile Ile Tyr Ser Leu Trp Asn Arg Asp Val Gln Gly Ala Leu Arg Ala
 290 295 300
 ctt ctc att ggg cga agg atc tca gct agt gac tcc tga 951
 Leu Leu Ile Gly Arg Arg Ile Ser Ala Ser Asp Ser
 305 310 315

<210> 122

<211> 316

<212> PRT

<213> Homo Sapiens

<400> 122

Met Glu Ala Ala Asn Glu Ser Ser Glu Gly Ile Ser Phe Val Leu Leu
 1 5 10 15

Gly Leu Thr Thr Ser Pro Gly Gln Gln Arg Pro Leu Phe Val Leu Phe
20 25 30

Leu Leu Leu Tyr Val Ala Ser Leu Leu Gly Asn Gly Leu Ile Val Ala
35 40 45

Ala Ile Gln Ala Ser Pro Ala Leu His Ala Pro Met Tyr Phe Leu Leu
50 55 60

Ala His Leu Ser Phe Ala Asp Leu Cys Phe Ala Ser Val Thr Val Pro
65 70 75 80

Lys Met Leu Ala Asn Leu Leu Ala His Asp His Ser Ile Ser Leu Ala
85 90 95

Gly Cys Leu Thr Gln Met Tyr Phe Phe Phe Ala Leu Gly Val Thr Asp
100 105 110

Ser Cys Leu Leu Ala Ala Met Ala Tyr Asp Cys Tyr Val Ala Ile Arg
115 120 125

His Pro Leu Pro Tyr Ala Thr Arg Met Ser Arg Ala Met Cys Ala Ala
130 135 140

Leu Val Gly Met Ala Trp Leu Val Ser His Val His Ser Leu Leu Tyr
145 150 155 160

Ile Leu Leu Met Ala Arg Leu Ser Phe Cys Ala Ser His Gln Val Pro
165 170 175

His Phe Phe Cys Asp His Gln Pro Leu Leu Arg Leu Ser Cys Ser Asp
180 185 190

Thr His His Ile Gln Leu Leu Ile Phe Thr Glu Gly Ala Ala Val Val
195 200 205

Val Thr Pro Phe Leu Leu Ile Leu Ala Ser Tyr Gly Ala Ile Ala Ala
210 215 220

Ala Val Leu Gln Leu Pro Ser Ala Ser Gly Arg Leu Arg Ala Val Ser
225 230 235 240

Thr Cys Gly Ser His Leu Ala Val Val Ser Leu Phe Tyr Gly Thr Val
245 250 255

Ile Ala Val Tyr Phe Gln Ala Thr Ser Arg Arg Glu Ala Glu Trp Gly
260 265 270

Arg Val Ala Thr Val Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro

275	280	285	
Ile Ile Tyr Ser Leu Trp Asn Arg Asp Val Gln Gly Ala Leu Arg Ala			
290	295	300	
Leu Leu Ile Gly Arg Arg Ile Ser Ala Ser Asp Ser			
305	310	315	
<210> 123			
<211> 954			
<212> DNA			
<213> Homo Sapiens			
<220>			
<221> CDS			
<222> (1)..(951)			
<223>			
<400> 123			
atg aga aat ttg agt gga ggc cat gtc gag gag ttt gtc ttg gtg ggt			48
Met Arg Asn Leu Ser Gly Gly His Val Glu Glu Phe Val Leu Val Gly			
1 5 10 15			
ttc cct acc acg cct ccc ctc cag ctg ctc ctc ttt gtc ctt ttt ttt			96
Phe Pro Thr Thr Pro Pro Leu Gln Leu Leu Leu Phe Val Leu Phe Phe			
20 25 30			
gca att tac ctt ctg aca ttg ttg gag aat gca ctt att gtc ttc aca			144
Ala Ile Tyr Leu Leu Thr Leu Leu Glu Asn Ala Leu Ile Val Phe Thr			
35 40 45			
ata tgg ctt gct cca agc ctt cat cgt ccc atg tac ttt ttc ctt ggc			192
Ile Trp Leu Ala Pro Ser Leu His Arg Pro Met Tyr Phe Phe Leu Gly			
50 55 60			
cat ctc tct ttc ctg gag cta tgg tac atc aat gtc acc att cct cgg			240
His Leu Ser Phe Leu Glu Leu Trp Tyr Ile Asn Val Thr Ile Pro Arg			
65 70 75 80			
ctc ttg gca gcc ttt ctt acc cag gat ggt aga gtc tcc tac gta ggt			288
Leu Leu Ala Ala Phe Leu Thr Gln Asp Gly Arg Val Ser Tyr Val Gly			
85 90 95			
tgc atg acc caa ctg tac ttc ttt att gcc tta gcc tgt act gaa tgt			336
Cys Met Thr Gln Leu Tyr Phe Phe Ile Ala Leu Ala Cys Thr Glu Cys			
100 105 110			
gtg ctg ttg gca gtt atg gcc tat gat cgc tac ctg gcc atc tgt gga			384
Val Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Gly			
115 120 125			
ccc ctc ctt tac cct agt ctc atg cct tcc agt ctg gcc act cgc ctt			432
Pro Leu Leu Tyr Pro Ser Leu Met Pro Ser Ser Leu Ala Thr Arg Leu			
130 135 140			

gct gct gcc tct tgg ggc agt ggc ttc ttc agc tcc atg atg aag ctt 480
 Ala Ala Ala Ser Trp Gly Ser Gly Phe Phe Ser Ser Met Met Lys Leu
 145 150 155 160
 ctt ttt att tcc caa ttg tcc tac tgt gga ccc aac att atc aac cac 528
 Leu Phe Ile Ser Gln Leu Ser Tyr Cys Gly Pro Asn Ile Ile Asn His
 165 170 175
 ttt ttc tgt gat att tcc cca cta ctc aac ctc acc tgc tct gac aag 576
 Phe Phe Cys Asp Ile Ser Pro Leu Leu Asn Leu Thr Cys Ser Asp Lys
 180 185 190
 gag caa gca gag cta gta gac ttc ctt ctg gcc ctg gtg atg att cta 624
 Glu Gln Ala Glu Leu Val Asp Phe Leu Leu Ala Leu Val Met Ile Leu
 195 200 205
 ctc cct cta ttg gct gtg gtt tca tca tac act gcc atc att gca gcc 672
 Leu Pro Leu Leu Ala Val Val Ser Ser Tyr Thr Ala Ile Ile Ala Ala
 210 215 220
 atc ctg agg atc cct acg tcc agg gga cgc cac aaa gcc ttt tcc act 720
 Ile Leu Arg Ile Pro Thr Ser Arg Gly Arg His Lys Ala Phe Ser Thr
 225 230 235 240
 tgt gcc gct cat ctg gca gtg gtt gtt atc tac tac tcc tcc act ctc 768
 Cys Ala Ala His Leu Ala Val Val Val Ile Tyr Tyr Ser Ser Thr Leu
 245 250 255
 ttc acc tat gca cgg ccc cgg gcc atg tac acc ttc aac cac aac aag 816
 Phe Thr Tyr Ala Arg Pro Arg Ala Met Tyr Thr Phe Asn His Asn Lys
 260 265 270
 att atc tct gtg ctc tac act atc att gta cca ttc ttc aac cca gcc 864
 Ile Ile Ser Val Leu Tyr Thr Ile Ile Val Pro Phe Phe Asn Pro Ala
 275 280 285
 atc tac tgc ctg agg aac aag gag gtg aag gag gcc ttc agg aag aca 912
 Ile Tyr Cys Leu Arg Asn Lys Glu Val Lys Glu Ala Phe Arg Lys Thr
 290 295 300
 gtg atg ggc aga tgt cac tat cct agg gat gtt cag gac tga 954
 Val Met Gly Arg Cys His Tyr Pro Arg Asp Val Gln Asp
 305 310 315

<210> 124

<211> 317

<212> PRT

<213> Homo Sapiens

<400> 124

Met Arg Asn Leu Ser Gly Gly His Val Glu Glu Phe Val Leu Val Gly
 1 5 10 15

Phe Pro Thr Thr Pro Pro Leu Gln Leu Leu Leu Phe Val Leu Phe Phe
 20 25 30

Ala Ile Tyr Leu Leu Thr Leu Leu Glu Asn Ala Leu Ile Val Phe Thr

35					40					45					
Ile	Trp	Leu	Ala	Pro	Ser	Leu	His	Arg	Pro	Met	Tyr	Phe	Phe	Leu	Gly
50						55					60				
His	Leu	Ser	Phe	Leu	Glu	Leu	Trp	Tyr	Ile	Asn	Val	Thr	Ile	Pro	Arg
65					70					75					80
Leu	Leu	Ala	Ala	Phe	Leu	Thr	Gln	Asp	Gly	Arg	Val	Ser	Tyr	Val	Gly
				85					90					95	
Cys	Met	Thr	Gln	Leu	Tyr	Phe	Phe	Ile	Ala	Leu	Ala	Cys	Thr	Glu	Cys
			100					105					110		
Val	Leu	Leu	Ala	Val	Met	Ala	Tyr	Asp	Arg	Tyr	Leu	Ala	Ile	Cys	Gly
		115					120					125			
Pro	Leu	Leu	Tyr	Pro	Ser	Leu	Met	Pro	Ser	Ser	Leu	Ala	Thr	Arg	Leu
	130					135					140				
Ala	Ala	Ala	Ser	Trp	Gly	Ser	Gly	Phe	Phe	Ser	Ser	Met	Met	Lys	Leu
145					150					155					160
Leu	Phe	Ile	Ser	Gln	Leu	Ser	Tyr	Cys	Gly	Pro	Asn	Ile	Ile	Asn	His
				165					170					175	
Phe	Phe	Cys	Asp	Ile	Ser	Pro	Leu	Leu	Asn	Leu	Thr	Cys	Ser	Asp	Lys
			180					185					190		
Glu	Gln	Ala	Glu	Leu	Val	Asp	Phe	Leu	Leu	Ala	Leu	Val	Met	Ile	Leu
		195					200					205			
Leu	Pro	Leu	Leu	Ala	Val	Val	Ser	Ser	Tyr	Thr	Ala	Ile	Ile	Ala	Ala
	210					215					220				
Ile	Leu	Arg	Ile	Pro	Thr	Ser	Arg	Gly	Arg	His	Lys	Ala	Phe	Ser	Thr
225					230					235					240
Cys	Ala	Ala	His	Leu	Ala	Val	Val	Val	Ile	Tyr	Tyr	Ser	Ser	Thr	Leu
				245					250					255	
Phe	Thr	Tyr	Ala	Arg	Pro	Arg	Ala	Met	Tyr	Thr	Phe	Asn	His	Asn	Lys
			260					265					270		
Ile	Ile	Ser	Val	Leu	Tyr	Thr	Ile	Ile	Val	Pro	Phe	Phe	Asn	Pro	Ala
		275					280					285			
Ile	Tyr	Cys	Leu	Arg	Asn	Lys	Glu	Val	Lys	Glu	Ala	Phe	Arg	Lys	Thr
	290					295					300				

Val Met Gly Arg Cys His Tyr Pro Arg Asp Val Gln Asp
 305 310 315

<210> 125

<211> 930

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(927)

<223>

<400> 125

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 Met Lys Ile Asn Gln Thr Ile Leu Lys Glu Phe Ile Leu Val Gly Phe
 1 5 10 15

tct gtg tac cca cat gta cag aca ttt ctt ttt gtg gtc ttc ttt tgt 96
 Ser Val Tyr Pro His Val Gln Thr Phe Leu Phe Val Val Phe Phe Cys
 20 25 30

ctc tac ctt ctc acc ctt gca ggt aat ctg atc atc atg ggt cta act 144
 Leu Tyr Leu Leu Thr Leu Ala Gly Asn Leu Ile Ile Met Gly Leu Thr
 35 40 45

tgg gtg gac agg tcc ctc cac acc cct atg tat ctc ttc ctt agt gca 192
 Trp Val Asp Arg Ser Leu His Thr Pro Met Tyr Leu Phe Leu Ser Ala
 50 55 60

ctc tcc ttc tct gag acc tgc tat acg ctg acc atc gtc ccc aag atg 240
 Leu Ser Phe Ser Glu Thr Cys Tyr Thr Leu Thr Ile Val Pro Lys Met
 65 70 75 80

ctg gaa gat cta ctg gcc aag gac aga agc att tca gtc aca ggt tgt 288
 Leu Glu Asp Leu Leu Ala Lys Asp Arg Ser Ile Ser Val Thr Gly Cys
 85 90 95

agc tta cag atg tgc ttc ttc ttg gga ctt ggt ggc aca aac tgt atc 336
 Ser Leu Gln Met Cys Phe Phe Leu Gly Leu Gly Gly Thr Asn Cys Ile
 100 105 110

att ctc act ttg atg gga tat gac cgc ttc ctg gcc atc tgt aac cct 384
 Ile Leu Thr Leu Met Gly Tyr Asp Arg Phe Leu Ala Ile Cys Asn Pro
 115 120 125

cta aga tat cca ctg ctt atg acc aac att gta tgt gga caa ctt gtg 432
 Leu Arg Tyr Pro Leu Leu Met Thr Asn Ile Val Cys Gly Gln Leu Val
 130 135 140

gcc tct gct tgc act gca ggc ttc ttt atc tct ctt aca gag act gca 480
 Ala Ser Ala Cys Thr Ala Gly Phe Phe Ile Ser Leu Thr Glu Thr Ala
 145 150 155 160

ctg ata ttc agg gac tct ttc tgc aga ccc aac ctt gtc aaa cac ttc 528
 Leu Ile Phe Arg Asp Ser Phe Cys Arg Pro Asn Leu Val Lys His Phe

165										170					175					
ttc	tgc	cat	atg	ctg	gca	gtt	att	agg	ctg	tct	tgt	ata	gac	agt	aac	576				
Phe	Cys	His	Met	Leu	Ala	Val	Ile	Arg	Leu	Ser	Cys	Ile	Asp	Ser	Asn					
			180					185					190							
cac	aca	gaa	ttc	att	ata	aca	ctg	atc	tca	gtg	tct	ggc	ttg	ctg	ggc	624				
His	Thr	Glu	Phe	Ile	Ile	Thr	Leu	Ile	Ser	Val	Ser	Gly	Leu	Leu	Gly					
		195					200					205								
acc	ctt	ctg	ctc	atc	atc	ctg	act	gat	gtc	ttc	att	att	tct	act	gtc	672				
Thr	Leu	Leu	Leu	Ile	Ile	Leu	Thr	Asp	Val	Phe	Ile	Ile	Ser	Thr	Val					
	210					215					220									
ctc	agg	atc	cct	tca	gct	gag	ggc	aag	cag	aag	gcc	ttc	acc	acc	tgt	720				
Leu	Arg	Ile	Pro	Ser	Ala	Glu	Gly	Lys	Gln	Lys	Ala	Phe	Thr	Thr	Cys					
225					230					235					240					
gcc	tcc	cac	ctc	acc	gtg	gtt	ata	atc	cac	ttt	ggc	ttt	gca	tct	att	768				
Ala	Ser	His	Leu	Thr	Val	Val	Ile	Ile	His	Phe	Gly	Phe	Ala	Ser	Ile					
				245					250					255						
gtt	tat	ttg	aag	cca	gaa	gcc	tca	gga	gat	gac	aca	ctc	ata	gca	gtc	816				
Val	Tyr	Leu	Lys	Pro	Glu	Ala	Ser	Gly	Asp	Asp	Thr	Leu	Ile	Ala	Val					
		260						265					270							
cct	tat	act	gtc	att	acc	ccc	ttc	ctc	agc	ccc	atc	ata	ttc	agc	ctg	864				
Pro	Tyr	Thr	Val	Ile	Thr	Pro	Phe	Leu	Ser	Pro	Ile	Ile	Phe	Ser	Leu					
		275					280					285								
agg	aat	aag	gac	atg	aaa	aat	gct	ttt	aga	aga	atg	atg	gga	aac	aca	912				
Arg	Asn	Lys	Asp	Met	Lys	Asn	Ala	Phe	Arg	Arg	Met	Met	Gly	Asn	Thr					
	290					295					300									
gtt	gcc	ttg	aaa	aaa	taa											930				
Val	Ala	Leu	Lys	Lys																
305																				

<210> 126

<211> 309

<212> PRT

<213> Homo Sapiens

<400> 126

Met	Lys	Ile	Asn	Gln	Thr	Ile	Leu	Lys	Glu	Phe	Ile	Leu	Val	Gly	Phe	
1				5					10					15		
Ser	Val	Tyr	Pro	His	Val	Gln	Thr	Phe	Leu	Phe	Val	Val	Phe	Phe	Cys	
			20					25					30			
Leu	Tyr	Leu	Leu	Thr	Leu	Ala	Gly	Asn	Leu	Ile	Ile	Met	Gly	Leu	Thr	
		35					40					45				
Trp	Val	Asp	Arg	Ser	Leu	His	Thr	Pro	Met	Tyr	Leu	Phe	Leu	Ser	Ala	
	50					55					60					

Leu Ser Phe Ser Glu Thr Cys Tyr Thr Leu Thr Ile Val Pro Lys Met
65 70 75 80

Leu Glu Asp Leu Leu Ala Lys Asp Arg Ser Ile Ser Val Thr Gly Cys
85 90 95

Ser Leu Gln Met Cys Phe Phe Leu Gly Leu Gly Gly Thr Asn Cys Ile
100 105 110

Ile Leu Thr Leu Met Gly Tyr Asp Arg Phe Leu Ala Ile Cys Asn Pro
115 120 125

Leu Arg Tyr Pro Leu Leu Met Thr Asn Ile Val Cys Gly Gln Leu Val
130 135 140

Ala Ser Ala Cys Thr Ala Gly Phe Phe Ile Ser Leu Thr Glu Thr Ala
145 150 155 160

Leu Ile Phe Arg Asp Ser Phe Cys Arg Pro Asn Leu Val Lys His Phe
165 170 175

Phe Cys His Met Leu Ala Val Ile Arg Leu Ser Cys Ile Asp Ser Asn
180 185 190

His Thr Glu Phe Ile Ile Thr Leu Ile Ser Val Ser Gly Leu Leu Gly
195 200 205

Thr Leu Leu Leu Ile Ile Leu Thr Asp Val Phe Ile Ile Ser Thr Val
210 215 220

Leu Arg Ile Pro Ser Ala Glu Gly Lys Gln Lys Ala Phe Thr Thr Cys
225 230 235 240

Ala Ser His Leu Thr Val Val Ile Ile His Phe Gly Phe Ala Ser Ile
245 250 255

Val Tyr Leu Lys Pro Glu Ala Ser Gly Asp Asp Thr Leu Ile Ala Val
260 265 270

Pro Tyr Thr Val Ile Thr Pro Phe Leu Ser Pro Ile Ile Phe Ser Leu
275 280 285

Arg Asn Lys Asp Met Lys Asn Ala Phe Arg Arg Met Met Gly Asn Thr
290 295 300

Val Ala Leu Lys Lys
305

<210> 127

<211> 969

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(963)

<223>

<400> 127

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Met Glu Pro Gln Asn Thr Ser Thr Val Thr Asn Phe Gln Leu Leu Gly	
1 5 10 15	
ttc cag aac ctt ctt gaa tgg cag gcc ctg ctc ttt gtc att ttc ctg	96
Phe Gln Asn Leu Leu Glu Trp Gln Ala Leu Leu Phe Val Ile Phe Leu	
20 25 30	
ctc atc tac tgc ctg acc att ata ggg aat gtt gtc atc atc acc gtg	144
Leu Ile Tyr Cys Leu Thr Ile Ile Gly Asn Val Val Ile Ile Thr Val	
35 40 45	
gtg agc cag ggc ctg cga ctg cac tcc cct atg tac atg ttc ctc cag	192
Val Ser Gln Gly Leu Arg Leu His Ser Pro Met Tyr Met Phe Leu Gln	
50 55 60	
cat ctc tcc ttt ctg gag gtc tgg tac acg tcc acc act gtg ccc ctt	240
His Leu Ser Phe Leu Glu Val Trp Tyr Thr Ser Thr Thr Val Pro Leu	
65 70 75 80	
ctc cta gcc aac ctg ctg tcc tgg ggc caa gcc atc tcc ttc tct gcc	288
Leu Leu Ala Asn Leu Leu Ser Trp Gly Gln Ala Ile Ser Phe Ser Ala	
85 90 95	
tgc atg gca cag ctc tac ttc ttc gta ttc ctc ggc gcc acc gag tgc	336
Cys Met Ala Gln Leu Tyr Phe Phe Val Phe Leu Gly Ala Thr Glu Cys	
100 105 110	
ttt ctc ctg gcc ttc atg gcc tat gac cgt tac ctg gcc atc tgc agc	384
Phe Leu Leu Ala Phe Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Ser	
115 120 125	
cca ctc cgc tac ccc ttt ctc atg cat cgt ggg cta tgt gcc agg ttg	432
Pro Leu Arg Tyr Pro Phe Leu Met His Arg Gly Leu Cys Ala Arg Leu	
130 135 140	
gtg gtg gtc tca tgg tgc aca ggg gtc agc aca ggc ttt ctg cat tcc	480
Val Val Val Ser Trp Cys Thr Gly Val Ser Thr Gly Phe Leu His Ser	
145 150 155 160	
atg atg att tcc agg ttg gac ttc tgt ggg cgc aat cag att aac cat	528
Met Met Ile Ser Arg Leu Asp Phe Cys Gly Arg Asn Gln Ile Asn His	
165 170 175	
ttc ttc tgc gac ctc ccg cca ctc atg cag ctc tcc tgt tcc aga gtt	576
Phe Phe Cys Asp Leu Pro Pro Leu Met Gln Leu Ser Cys Ser Arg Val	
180 185 190	
tat atc acc gag gtg acc atc ttc atc ctg tca att gcc gtg ctg tgc	624

Tyr	Ile	Thr	Glu	Val	Thr	Ile	Phe	Ile	Leu	Ser	Ile	Ala	Val	Leu	Cys		
	195						200					205					
att	tgt	ttt	ttt	ctg	aca	ctg	ggg	ccc	tat	ggt	ttc	att	gtg	tcc	tcc	672	
Ile	Cys	Phe	Phe	Leu	Thr	Leu	Gly	Pro	Tyr	Val	Phe	Ile	Val	Ser	Ser		
	210					215					220						
ata	ttg	aga	atc	cct	tcc	acc	tct	ggc	cgg	aga	aag	acc	ttt	tcc	aca	720	
Ile	Leu	Arg	Ile	Pro	Ser	Thr	Ser	Gly	Arg	Arg	Lys	Thr	Phe	Ser	Thr		
225					230				235						240		
tgt	ggc	tcc	cac	ctg	gct	ggt	gtc	act	ctc	tac	tac	ggg	acc	atg	atc	768	
Cys	Gly	Ser	His	Leu	Ala	Val	Val	Thr	Leu	Tyr	Tyr	Gly	Thr	Met	Ile		
				245				250						255			
tcc	atg	tat	gtg	tgt	ccc	agt	ccc	cac	ctg	ttg	cct	gaa	atc	aac	aag	816	
Ser	Met	Tyr	Val	Cys	Pro	Ser	Pro	His	Leu	Leu	Pro	Glu	Ile	Asn	Lys		
			260					265					270				
atc	att	tct	gtc	ttc	tac	act	gtg	gtc	aca	cca	ctg	ctg	aac	cca	ggt	864	
Ile	Ile	Ser	Val	Phe	Tyr	Thr	Val	Val	Thr	Pro	Leu	Leu	Asn	Pro	Val		
		275					280					285					
atc	tac	agc	ttg	agg	aac	aaa	gac	ttc	aaa	gaa	gct	ggt	aga	aag	gtc	912	
Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Phe	Lys	Glu	Ala	Val	Arg	Lys	Val		
	290					295					300						
atg	aga	agg	aaa	tgt	ggt	att	cta	tgg	agt	aca	agt	aaa	agg	aag	ttc	960	
Met	Arg	Arg	Lys	Cys	Gly	Ile	Leu	Trp	Ser	Thr	Ser	Lys	Arg	Lys	Phe		
305					310					315					320		
ctt	tattag															969	
Leu																	

<210> 128

<211> 321

<212> PRT

<213> Homo Sapiens

<400> 128

Met	Glu	Pro	Gln	Asn	Thr	Ser	Thr	Val	Thr	Asn	Phe	Gln	Leu	Leu	Gly		
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Phe	Gln	Asn	Leu	Leu	Glu	Trp	Gln	Ala	Leu	Leu	Phe	Val	Ile	Phe	Leu		
			20					25					30				
Leu	Ile	Tyr	Cys	Leu	Thr	Ile	Ile	Gly	Asn	Val	Val	Ile	Ile	Thr	Val		
		35					40					45					
Val	Ser	Gln	Gly	Leu	Arg	Leu	His	Ser	Pro	Met	Tyr	Met	Phe	Leu	Gln		
	50					55					60						
His	Leu	Ser	Phe	Leu	Glu	Val	Trp	Tyr	Thr	Ser	Thr	Thr	Val	Pro	Leu		
65					70					75					80		

Leu Leu Ala Asn Leu Leu Ser Trp Gly Gln Ala Ile Ser Phe Ser Ala
85 90 95

Cys Met Ala Gln Leu Tyr Phe Phe Val Phe Leu Gly Ala Thr Glu Cys
100 105 110

Phe Leu Leu Ala Phe Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Ser
115 120 125

Pro Leu Arg Tyr Pro Phe Leu Met His Arg Gly Leu Cys Ala Arg Leu
130 135 140

Val Val Val Ser Trp Cys Thr Gly Val Ser Thr Gly Phe Leu His Ser
145 150 155 160

Met Met Ile Ser Arg Leu Asp Phe Cys Gly Arg Asn Gln Ile Asn His
165 170 175

Phe Phe Cys Asp Leu Pro Pro Leu Met Gln Leu Ser Cys Ser Arg Val
180 185 190

Tyr Ile Thr Glu Val Thr Ile Phe Ile Leu Ser Ile Ala Val Leu Cys
195 200 205

Ile Cys Phe Phe Leu Thr Leu Gly Pro Tyr Val Phe Ile Val Ser Ser
210 215 220

Ile Leu Arg Ile Pro Ser Thr Ser Gly Arg Arg Lys Thr Phe Ser Thr
225 230 235 240

Cys Gly Ser His Leu Ala Val Val Thr Leu Tyr Tyr Gly Thr Met Ile
245 250 255

Ser Met Tyr Val Cys Pro Ser Pro His Leu Leu Pro Glu Ile Asn Lys
260 265 270

Ile Ile Ser Val Phe Tyr Thr Val Val Thr Pro Leu Leu Asn Pro Val
275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Phe Lys Glu Ala Val Arg Lys Val
290 295 300

Met Arg Arg Lys Cys Gly Ile Leu Trp Ser Thr Ser Lys Arg Lys Phe
305 310 315 320

Leu

<210> 129

<211> 870

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(867)

<223>

<400> 129

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1 5 10 15	
aac cac acc aga gcc cac caa gtc ctc ttc atg atg gtt ctg agt atc	96
Asn His Thr Arg Ala His Gln Val Leu Phe Met Met Val Leu Ser Ile	
20 25 30	
gtt ttg acc tcc ctg ttt ggc aat tcc ctc atg att ctc ctg att cac	144
Val Leu Thr Ser Leu Phe Gly Asn Ser Leu Met Ile Leu Leu Ile His	
35 40 45	
tgg gac cac cgg ttc cac acg ccc atg tac ttc ctc ctg agc caa ctt	192
Trp Asp His Arg Phe His Thr Pro Met Tyr Phe Leu Leu Ser Gln Leu	
50 55 60	
tcc ctc atg gac gtg atg ctg gtt tcc acc act gtg ccc aaa atg gcg	240
Ser Leu Met Asp Val Met Leu Val Ser Thr Thr Val Pro Lys Met Ala	
65 70 75 80	
gct gac tac ttg acc gga agt aag gcc atc tcc cgc gct ggc tgt ggt	288
Ala Asp Tyr Leu Thr Gly Ser Lys Ala Ile Ser Arg Ala Gly Cys Gly	
85 90 95	
gcg cag atc ttc ttc ctc ccc aca ctg ggt ggt gga gag tgc ttc ctc	336
Ala Gln Ile Phe Phe Leu Pro Thr Leu Gly Gly Gly Glu Cys Phe Leu	
100 105 110	
tta gca gcc atg gcc tat gac cgc tat gcg gct gtc tgc cac cca ctc	384
Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ala Ala Val Cys His Pro Leu	
115 120 125	
cga tat ccc act ctc atg agc tgg cag ctg tgc ctg agg atg aac ctg	432
Arg Tyr Pro Thr Leu Met Ser Trp Gln Leu Cys Leu Arg Met Asn Leu	
130 135 140	
tcg tgt tgg ctc ctg ggt gca gct gac ggg ctc ctg cag gct gtt gct	480
Ser Cys Trp Leu Leu Gly Ala Ala Asp Gly Leu Leu Gln Ala Val Ala	
145 150 155 160	
acc ctg agc ttc cca tat tgc ggt gca cac gag atc gat cac ttc ttc	528
Thr Leu Ser Phe Pro Tyr Cys Gly Ala His Glu Ile Asp His Phe Phe	
165 170 175	
tgc gag acc ccc gtg ctg gtg cgt ttg gct tgt gct gac act tca gtc	576
Cys Glu Thr Pro Val Leu Val Arg Leu Ala Cys Ala Asp Thr Ser Val	
180 185 190	
ttc gaa aac gcc atg tac atc tgc tgt gtg tta atg ctc ctg gtc ccc	624

Phe	Glu	Asn	Ala	Met	Tyr	Ile	Cys	Cys	Val	Leu	Met	Leu	Leu	Val	Pro	
		195					200					205				
ttt	tcc	ctc	atc	ctg	tcc	tcc	tat	ggg	ctc	atc	ctc	gct	gct	gtt	ctg	672
Phe	Ser	Leu	Ile	Leu	Ser	Ser	Tyr	Gly	Leu	Ile	Leu	Ala	Ala	Val	Leu	
	210					215					220					
cac	atg	cgc	tct	aca	gaa	gcc	cgc	aag	aag	gcc	ttt	gcc	acc	tgc	tct	720
His	Met	Arg	Ser	Thr	Glu	Ala	Arg	Lys	Lys	Ala	Phe	Ala	Thr	Cys	Ser	
	225				230					235					240	
tca	cat	gtg	gct	gtg	gtg	gga	ctc	ttt	tat	gga	gct	gcc	att	ttt	acc	768
Ser	His	Val	Ala	Val	Val	Gly	Leu	Phe	Tyr	Gly	Ala	Ala	Ile	Phe	Thr	
				245					250					255		
tat	atg	aga	ccc	aaa	tcc	cac	agg	tcc	act	aac	cac	gac	aag	gtt	gtg	816
Tyr	Met	Arg	Pro	Lys	Ser	His	Arg	Ser	Thr	Asn	His	Asp	Lys	Val	Val	
			260					265					270			
tca	gcc	ttc	tat	act	atg	ttc	acc	cct	tta	cta	aac	ccc	ctc	atc	tac	864
Ser	Ala	Phe	Tyr	Thr	Met	Phe	Thr	Pro	Leu	Leu	Asn	Pro	Leu	Ile	Tyr	
		275					280					285				
agt	gtg															870
Ser																

<210> 130

<211> 289

<212> PRT

<213> Homo Sapiens

<400> 130

Met	Glu	Asn	Gly	Ser	Tyr	Thr	Ser	Tyr	Phe	Ile	Leu	Leu	Gly	Leu	Phe	
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Asn	His	Thr	Arg	Ala	His	Gln	Val	Leu	Phe	Met	Met	Val	Leu	Ser	Ile	
			20					25					30			
Val	Leu	Thr	Ser	Leu	Phe	Gly	Asn	Ser	Leu	Met	Ile	Leu	Leu	Ile	His	
		35					40					45				
Trp	Asp	His	Arg	Phe	His	Thr	Pro	Met	Tyr	Phe	Leu	Leu	Ser	Gln	Leu	
	50					55					60					
Ser	Leu	Met	Asp	Val	Met	Leu	Val	Ser	Thr	Thr	Val	Pro	Lys	Met	Ala	
	65				70					75					80	
Ala	Asp	Tyr	Leu	Thr	Gly	Ser	Lys	Ala	Ile	Ser	Arg	Ala	Gly	Cys	Gly	
				85					90					95		
Ala	Gln	Ile	Phe	Phe	Leu	Pro	Thr	Leu	Gly	Gly	Gly	Glu	Cys	Phe	Leu	
			100					105					110			

Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ala Ala Val Cys His Pro Leu
 115 120 125 .

Arg Tyr Pro Thr Leu Met Ser Trp Gln Leu Cys Leu Arg Met Asn Leu
 130 135 140

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

Thr Leu Ser Phe Pro Tyr Cys Gly Ala His Glu Ile Asp His Phe Phe
 165 170 175

Cys Glu Thr Pro Val Leu Val Arg Leu Ala Cys Ala Asp Thr Ser Val
 180 185 190

Phe Glu Asn Ala Met Tyr Ile Cys Cys Val Leu Met Leu Leu Val Pro
 195 200 205

Phe Ser Leu Ile Leu Ser Ser Tyr Gly Leu Ile Leu Ala Ala Val Leu
 210 215 220

His Met Arg Ser Thr Glu Ala Arg Lys Lys Ala Phe Ala Thr Cys Ser
 225 230 235 . 240

Ser His Val Ala Val Val Gly Leu Phe Tyr Gly Ala Ala Ile Phe Thr
 245 250 255

Tyr Met Arg Pro Lys Ser His Arg Ser Thr Asn His Asp Lys Val Val
 260 265 270

Ser Ala Phe Tyr Thr Met Phe Thr Pro Leu Leu Asn Pro Leu Ile Tyr
 275 280 285

Ser

<210> 131

<211> 963

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (960)

<223>

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Met Glu Arg Thr Asn Asp Ser Thr Ser Thr Glu Phe Phe Leu Val Gly
1          5          10          15

ctt tct gcc cac cca aag ctc cag aca gtt ttc ttc gtt cta att ttg      96
Leu Ser Ala His Pro Lys Leu Gln Thr Val Phe Phe Val Leu Ile Leu
          20          25          30

tgg atg tac ctg atg atc ctg ctt gga aat gga gtc ctt atc tca gtt      144
Trp Met Tyr Leu Met Ile Leu Leu Gly Asn Gly Val Leu Ile Ser Val
          35          40          45

atc atc ttt gat tct cac ctg cac acc ccc atg tat ttc ttc ctc tgt      192
Ile Ile Phe Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Cys
          50          55          60

aat ctt tcc ttc ctc gac gtt tgc tac aca agt tcc tct gtc cca cta      240
Asn Leu Ser Phe Leu Asp Val Cys Tyr Thr Ser Ser Ser Val Pro Leu
65          70          75          80

att ctt gcc agc ttt ctg gca gta aag aaa aag gtt tcc ttc tct ggg      288
Ile Leu Ala Ser Phe Leu Ala Val Lys Lys Lys Val Ser Phe Ser Gly
          85          90          95

tgt atg gtg caa atg ttt att tct ttt gcc atg ggg gcc acg gag tgc      336
Cys Met Val Gln Met Phe Ile Ser Phe Ala Met Gly Ala Thr Glu Cys
          100          105          110

atg atc tta ggc acg atg gca ctg gac cgc tat gtg gcc atc tgc tac      384
Met Ile Leu Gly Thr Met Ala Leu Asp Arg Tyr Val Ala Ile Cys Tyr
          115          120          125

cca ctg aga tac cct gtc atc atg agc aag ggt gcc tat gtg gcc atg      432
Pro Leu Arg Tyr Pro Val Ile Met Ser Lys Gly Ala Tyr Val Ala Met
          130          135          140

gca gct ggg tcc tgg gtc act ggg ctt gtg gac tca gta gtg cag aca      480
Ala Ala Gly Ser Trp Val Thr Gly Leu Val Asp Ser Val Val Gln Thr
145          150          155          160

gct ttt gca atg cag tta cca ttc tgt gct aat aat gtc att aaa cat      528
Ala Phe Ala Met Gln Leu Pro Phe Cys Ala Asn Asn Val Ile Lys His
          165          170          175

ttt gtc tgt gaa att ctg gct atc ttg aaa ctg gcc tgt gct gat att      576
Phe Val Cys Glu Ile Leu Ala Ile Leu Lys Leu Ala Cys Ala Asp Ile
          180          185          190

tca atc aat gtg att agt atg aca ggg tcg aat ctg att gtt ctg gtt      624
Ser Ile Asn Val Ile Ser Met Thr Gly Ser Asn Leu Ile Val Leu Val
          195          200          205

att cca ttg tta gta att tcc atc tct tac ata ttt att gtt gcc act      672
Ile Pro Leu Leu Val Ile Ser Ile Ser Tyr Ile Phe Ile Val Ala Thr
          210          215          220

att ctg agg att cct tcc act gaa gga aaa cat aag gcc ttc tcc acc      720
Ile Leu Arg Ile Pro Ser Thr Glu Gly Lys His Lys Ala Phe Ser Thr
225          230          235          240

tgc tca gcc cac ctg aca gtg gtg att ata ttc tat gga acc atc ttc      768
Cys Ser Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Phe
          245          250          255

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ttc atg tac gca aag cct gag tct aaa gcc tct gtt gat tca ggt aat	816
Phe Met Tyr Ala Lys Pro Glu Ser Lys Ala Ser Val Asp Ser Gly Asn	
260 265 270	

gaa gac atc att gag gcc ctc atc tcc ctt ttc tat gga gtg atg act	864
Glu Asp Ile Ile Glu Ala Leu Ile Ser Leu Phe Tyr Gly Val Met Thr	
275 280 285	

ccc atg ctt aat cct ctc atc tat agt ctg cga aac aag gat gta aag	912
Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys	
290 295 300	

gct gct gtc aaa aac ata ctg tgt agg aaa aac ttt tct gat gga aaa	960
Ala Ala Val Lys Asn Ile Leu Cys Arg Lys Asn Phe Ser Asp Gly Lys	
305 310 315 320	

tga	963
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<210> 132

<211> 320

<212> PRT

<213> Homo Sapiens

<400> 132

Met Glu Arg Thr Asn Asp Ser Thr Ser Thr Glu Phe Phe Leu Val Gly
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Leu Ser Ala His Pro Lys Leu Gln Thr Val Phe Phe Val Leu Ile Leu
20 25 30

Trp Met Tyr Leu Met Ile Leu Leu Gly Asn Gly Val Leu Ile Ser Val
35 40 45

Ile Ile Phe Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Cys
50 55 60

Asn Leu Ser Phe Leu Asp Val Cys Tyr Thr Ser Ser Ser Val Pro Leu
65 70 75 80

Ile Leu Ala Ser Phe Leu Ala Val Lys Lys Lys Val Ser Phe Ser Gly
85 90 95

Cys Met Val Gln Met Phe Ile Ser Phe Ala Met Gly Ala Thr Glu Cys
100 105 110

Met Ile Leu Gly Thr Met Ala Leu Asp Arg Tyr Val Ala Ile Cys Tyr
115 120 125

Pro Leu Arg Tyr Pro Val Ile Met Ser Lys Gly Ala Tyr Val Ala Met
130 135 140

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

Ala Phe Ala Met Gln Leu Pro Phe Cys Ala Asn Asn Val Ile Lys His
165 170 175

Phe Val Cys Glu Ile Leu Ala Ile Leu Lys Leu Ala Cys Ala Asp Ile
180 185 190

Ser Ile Asn Val Ile Ser Met Thr Gly Ser Asn Leu Ile Val Leu Val
195 200 205

Ile Pro Leu Leu Val Ile Ser Ile Ser Tyr Ile Phe Ile Val Ala Thr
210 215 220

Ile Leu Arg Ile Pro Ser Thr Glu Gly Lys His Lys Ala Phe Ser Thr
225 230 235 240

Cys Ser Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Phe
245 250 255

Phe Met Tyr Ala Lys Pro Glu Ser Lys Ala Ser Val Asp Ser Gly Asn
260 265 270

Glu Asp Ile Ile Glu Ala Leu Ile Ser Leu Phe Tyr Gly Val Met Thr
275 280 285

Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys
290 295 300

Ala Ala Val Lys Asn Ile Leu Cys Arg Lys Asn Phe Ser Asp Gly Lys
305 310 315 320

<210> 133

<211> 933

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (930)

<223>

<400> 133

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Asn Tyr Asn Gln Ser Ser Thr Asp Phe Ile Leu Leu Gly Phe Phe Pro

1	5				10				15								
cca tca aga att ggc ctt ttc ctc ttc atc ctc att gtt ttc att ttc	Pro Ser Arg Ile Gly Leu Phe Leu Phe Ile Leu Ile Val Phe Ile Phe				20 25 30												96
cta atg gct cta att gga aac cta tcc atg att ctt ctc atc ttc ttg	Leu Met Ala Leu Ile Gly Asn Leu Ser Met Ile Leu Leu Ile Phe Leu				35 40 45												144
gac acc cat ctc cac aca ccc atg tat ttc cta ctt agt cag ctc tcc	Asp Thr His Leu His Thr Pro Met Tyr Phe Leu Leu Ser Gln Leu Ser				50 55 60												192
ctc att gac cta aat tac atc tcc acc att gtt cct aag atg gca tct	Leu Ile Asp Leu Asn Tyr Ile Ser Thr Ile Val Pro Lys Met Ala Ser				65 70 75 80												240
gat ttt ctg tct ggt aac aag tct atc tcc ttc act ggg tgt ggg att	Asp Phe Leu Ser Gly Asn Lys Ser Ile Ser Phe Thr Gly Cys Gly Ile				85 90 95												288
cag agt ttc ttc ttc tcg gca tta gga ggt gca gaa gca cta ctt ttg	Gln Ser Phe Phe Phe Ser Ala Leu Gly Gly Ala Glu Ala Leu Leu Leu				100 105 110												336
gca tct atg gcc tat gat cgt tac att gct att tgc ttt cct ctt cac	Ala Ser Met Ala Tyr Asp Arg Tyr Ile Ala Ile Cys Phe Pro Leu His				115 120 125												384
tat ccc atc cgc atg agc aaa aga atg tgt gtg ctg atg ata aca ggg	Tyr Pro Ile Arg Met Ser Lys Arg Met Cys Val Leu Met Ile Thr Gly				130 135 140												432
tct tgg atc ata ggc tcg atc aat gct tgt gct cac act gta tat gta	Ser Trp Ile Ile Gly Ser Ile Asn Ala Cys Ala His Thr Val Tyr Val				145 150 155 160												480
ctc cat att cct tat tgc caa tcc agg gcc atc aat cat ttc ttc tgt	Leu His Ile Pro Tyr Cys Gln Ser Arg Ala Ile Asn His Phe Phe Cys				165 170 175												528
gat gtc cca gca atg gtg act ctg gcc tgc atg gac acc tgg gtc tat	Asp Val Pro Ala Met Val Thr Leu Ala Cys Met Asp Thr Trp Val Tyr				180 185 190												576
gag ggc aca gtg ttt ttg agc acc acc atc ttt ctc gtg ttt ccc ttc	Glu Gly Thr Val Phe Leu Ser Thr Thr Ile Phe Leu Val Phe Pro Phe				195 200 205												624
att gct att tca tgt tcc tat ggc cgg gtt ctc ctt gct gtc tac cac	Ile Ala Ile Ser Cys Ser Tyr Gly Arg Val Leu Leu Ala Val Tyr His				210 215 220												672
atg aaa tct gca gaa ggg agg aag aaa gcc tac ctg acc tgc agc acc	Met Lys Ser Ala Glu Gly Arg Lys Lys Ala Tyr Leu Thr Cys Ser Thr				225 230 235 240												720
cac ctc act gta gta act ttc tac tat gca cct ttt gtc tac act tat	His Leu Thr Val Val Thr Phe Tyr Tyr Ala Pro Phe Val Tyr Thr Tyr				245 250 255												768
cta cgt cca aga tcc ctg cga tct cca aca gag gac aag gtt ctg gct	Leu Arg Pro Arg Ser Leu Arg Ser Pro Thr Glu Asp Lys Val Leu Ala				260 265 270												816
gtc ttc tac acc atc ctc acc cca atg ctc aac ccc atc atc tat agc																	864

Val Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro Ile Ile Tyr Ser
 275 280 285

ctg agg aac aag gag gtg atg ggg gcc ctg aca cga gtg agt cag aga 912
 Leu Arg Asn Lys Glu Val Met Gly Ala Leu Thr Arg Val Ser Gln Arg
 290 295 300

atc tgc tct gtg aaa atg tag 933
 Ile Cys Ser Val Lys Met
 305 310

<210> 134

<211> 310

<212> PRT

<213> Homo Sapiens

<400> 134

Asn Tyr Asn Gln Ser Ser Thr Asp Phe Ile Leu Leu Gly Phe Phe Pro
 1 5 10 15

Pro Ser Arg Ile Gly Leu Phe Leu Phe Ile Leu Ile Val Phe Ile Phe
 20 25 30

Leu Met Ala Leu Ile Gly Asn Leu Ser Met Ile Leu Leu Ile Phe Leu
 35 40 45

Asp Thr His Leu His Thr Pro Met Tyr Phe Leu Leu Ser Gln Leu Ser
 50 55 60

Leu Ile Asp Leu Asn Tyr Ile Ser Thr Ile Val Pro Lys Met Ala Ser
 65 70 75 80

Asp Phe Leu Ser Gly Asn Lys Ser Ile Ser Phe Thr Gly Cys Gly Ile
 85 90 95

Gln Ser Phe Phe Phe Ser Ala Leu Gly Gly Ala Glu Ala Leu Leu Leu
 100 105 110

Ala Ser Met Ala Tyr Asp Arg Tyr Ile Ala Ile Cys Phe Pro Leu His
 115 120 125

Tyr Pro Ile Arg Met Ser Lys Arg Met Cys Val Leu Met Ile Thr Gly
 130 135 140

Ser Trp Ile Ile Gly Ser Ile Asn Ala Cys Ala His Thr Val Tyr Val
 145 150 155 160

Leu His Ile Pro Tyr Cys Gln Ser Arg Ala Ile Asn His Phe Phe Cys
 165 170 175

Asp Val Pro Ala Met Val Thr Leu Ala Cys Met Asp Thr Trp Val Tyr
 180 185 190

Glu Gly Thr Val Phe Leu Ser Thr Thr Ile Phe Leu Val Phe Pro Phe
 195 200 205

Ile Ala Ile Ser Cys Ser Tyr Gly Arg Val Leu Leu Ala Val Tyr His
 210 215 220

Met Lys Ser Ala Glu Gly Arg Lys Lys Ala Tyr Leu Thr Cys Ser Thr
 225 230 235 240

His Leu Thr Val Val Thr Phe Tyr Tyr Ala Pro Phe Val Tyr Thr Tyr
 245 250 255

Leu Arg Pro Arg Ser Leu Arg Ser Pro Thr Glu Asp Lys Val Leu Ala
 260 265 270

Val Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro Ile Ile Tyr Ser
 275 280 285

Leu Arg Asn Lys Glu Val Met Gly Ala Leu Thr Arg Val Ser Gln Arg
 290 295 300

Ile Cys Ser Val Lys Met
 305 310

<210> 135

<211> 954

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(951)

<223>

<400> 135

atg ggg atg gtg aga cat acc aat gag agc aac cta gca ggt ttc atc 48
 Met Gly Met Val Arg His Thr Asn Glu Ser Asn Leu Ala Gly Phe Ile
 1 5 10 15

ctt tta ggg ttt tct gat tat cct cag tta cag aag gtt cta ttt gtg 96
 Leu Leu Gly Phe Ser Asp Tyr Pro Gln Leu Gln Lys Val Leu Phe Val
 20 25 30

ctc ata ttg att ctg tat tta cta act att ttg ggg aat acc acc atc 144

Leu	Ile	Leu	Ile	Leu	Tyr	Leu	Leu	Thr	Ile	Leu	Gly	Asn	Thr	Thr	Ile		
		35					40					45					
att	ctg	gtt	tct	cgt	ctg	gaa	ccc	aag	ctt	cat	atg	ccg	atg	tat	ttc		192
Ile	Leu	Val	Ser	Arg	Leu	Glu	Pro	Lys	Leu	His	Met	Pro	Met	Tyr	Phe		
	50					55				60							
ttc	ctt	tct	cat	ctc	tcc	ttc	ctg	tac	cgc	tgc	ttc	acc	agc	agt	gtt		240
Phe	Leu	Ser	His	Leu	Ser	Phe	Leu	Tyr	Arg	Cys	Phe	Thr	Ser	Ser	Val		
65					70					75					80		
att	ccc	cag	ctc	ctg	gta	aac	ctg	tgg	gaa	ccc	atg	aaa	act	atc	gcc		288
Ile	Pro	Gln	Leu	Leu	Val	Asn	Leu	Trp	Glu	Pro	Met	Lys	Thr	Ile	Ala		
				85					90					95			
tat	ggg	ggc	tgt	ttg	gtt	cac	ctt	tac	aac	tcc	cat	gcc	ctg	gga	tcc		336
Tyr	Gly	Gly	Cys	Leu	Val	His	Leu	Tyr	Asn	Ser	His	Ala	Leu	Gly	Ser		
			100				105						110				
act	gag	tgc	gtc	ctc	ccg	gct	ctg	atg	tcc	tgt	gac	cgc	tat	gtg	gct		384
Thr	Glu	Cys	Val	Leu	Pro	Ala	Leu	Met	Ser	Cys	Asp	Arg	Tyr	Val	Ala		
		115					120					125					
gtc	tgc	cgt	cct	ctc	cat	tac	act	gtc	tta	atg	cat	atc	cat	ctc	tgc		432
Val	Cys	Arg	Pro	Leu	His	Tyr	Thr	Val	Leu	Met	His	Ile	His	Leu	Cys		
	130					135					140						
atg	gcc	ttg	gca	tct	atg	gca	tgg	ctc	agt	gga	ata	gcc	acc	acc	ctg		480
Met	Ala	Leu	Ala	Ser	Met	Ala	Trp	Leu	Ser	Gly	Ile	Ala	Thr	Thr	Leu		
145					150					155					160		
gta	cag	tcc	acc	ctc	acc	ctg	cag	ctg	ccc	ttc	tgt	ggg	cat	cgc	caa		528
Val	Gln	Ser	Thr	Leu	Thr	Leu	Gln	Leu	Pro	Phe	Cys	Gly	His	Arg	Gln		
				165					170					175			
gtg	gat	cat	ttc	atc	tgc	gag	gtc	cct	gtg	ctc	atc	aag	ctg	gct	tgt		576
Val	Asp	His	Phe	Ile	Cys	Glu	Val	Pro	Val	Leu	Ile	Lys	Leu	Ala	Cys		
			180					185					190				
gtg	ggc	acc	acg	ttt	aac	gag	gct	gag	ctt	ttt	gtg	gct	agt	atc	ctt		624
Val	Gly	Thr	Thr	Phe	Asn	Glu	Ala	Glu	Leu	Phe	Val	Ala	Ser	Ile	Leu		
		195					200					205					
ttc	ctt	ata	gtg	cct	gtc	tca	ttc	atc	ctg	gtc	tcc	tct	ggc	tac	att		672
Phe	Leu	Ile	Val	Pro	Val	Ser	Phe	Ile	Leu	Val	Ser	Ser	Gly	Tyr	Ile		
	210					215					220						
gcc	cac	gca	gtg	ttg	agg	att	aag	tca	gct	acc	agg	aga	cag	aaa	gca		720
Ala	His	Ala	Val	Leu	Arg	Ile	Lys	Ser	Ala	Thr	Arg	Arg	Gln	Lys	Ala		
225					230					235					240		
ttc	ggg	acc	tgc	ttc	tcc	cac	ctg	aca	gtg	gtc	acc	atc	ttt	tat	gga		768
Phe	Gly	Thr	Cys	Phe	Ser	His	Leu	Thr	Val	Val	Thr	Ile	Phe	Tyr	Gly		
				245					250					255			
acc	atc	atc	ttc	atg	tat	ctg	cag	cca	gcc	aag	agt	aga	tcc	agg	gac		816
Thr	Ile	Ile	Phe	Met	Tyr	Leu	Gln	Pro	Ala	Lys	Ser	Arg	Ser	Arg	Asp		
			260					265					270				
cag	ggc	aag	ttt	gtt	tct	ctc	ttc	tac	act	gtg	gta	acc	cgc	atg	ctt		864
Gln	Gly	Lys	Phe	Val	Ser	Leu	Phe	Tyr	Thr	Val	Val	Thr	Arg	Met	Leu		
		275					280					285					
aac	cct	ctt	att	tat	acc	ttg	agg	atc	aag	gag	gtg	aaa	ggg	gca	tta		912
Asn	Pro	Leu	Ile	Tyr	Thr	Leu	Arg	Ile	Lys	Glu	Val	Lys	Gly	Ala	Leu		
	290					295					300						

aag aaa gtt cta gca aag gct ctg gga gta aat att tta tga 954
 Lys Lys Val Leu Ala Lys Ala Leu Gly Val Asn Ile Leu
 305 310 315

<210> 136

<211> 317

<212> PRT

<213> Homo Sapiens

<400> 136

Met Gly Met Val Arg His Thr Asn Glu Ser Asn Leu Ala Gly Phe Ile
 1 5 10 15

Leu Leu Gly Phe Ser Asp Tyr Pro Gln Leu Gln Lys Val Leu Phe Val
 20 25 30

Leu Ile Leu Ile Leu Tyr Leu Leu Thr Ile Leu Gly Asn Thr Thr Ile
 35 40 45

Ile Leu Val Ser Arg Leu Glu Pro Lys Leu His Met Pro Met Tyr Phe
 50 55 60

Phe Leu Ser His Leu Ser Phe Leu Tyr Arg Cys Phe Thr Ser Ser Val
 65 70 75 80

Ile Pro Gln Leu Leu Val Asn Leu Trp Glu Pro Met Lys Thr Ile Ala
 85 90 95

Tyr Gly Gly Cys Leu Val His Leu Tyr Asn Ser His Ala Leu Gly Ser
 100 105 110

Thr Glu Cys Val Leu Pro Ala Leu Met Ser Cys Asp Arg Tyr Val Ala
 115 120 125

Val Cys Arg Pro Leu His Tyr Thr Val Leu Met His Ile His Leu Cys
 130 135 140

Met Ala Leu Ala Ser Met Ala Trp Leu Ser Gly Ile Ala Thr Thr Leu
 145 150 155 160

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

Val Asp His Phe Ile Cys Glu Val Pro Val Leu Ile Lys Leu Ala Cys
 180 185 190

Val Gly Thr Thr Phe Asn Glu Ala Glu Leu Phe Val Ala Ser Ile Leu
 195 200 205

Phe Leu Ile Val Pro Val Ser Phe Ile Leu Val Ser Ser Gly Tyr Ile
 210 215 220

Ala His Ala Val Leu Arg Ile Lys Ser Ala Thr Arg Arg Gln Lys Ala
 225 230 235 240

Phe Gly Thr Cys Phe Ser His Leu Thr Val Val Thr Ile Phe Tyr Gly
 245 250 255

Thr Ile Ile Phe Met Tyr Leu Gln Pro Ala Lys Ser Arg Ser Arg Asp
 260 265 270

Gln Gly Lys Phe Val Ser Leu Phe Tyr Thr Val Val Thr Arg Met Leu
 275 280 285

Asn Pro Leu Ile Tyr Thr Leu Arg Ile Lys Glu Val Lys Gly Ala Leu
 290 295 300

Lys Lys Val Leu Ala Lys Ala Leu Gly Val Asn Ile Leu
 305 310 315

<210> 137

<211> 957

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(954)

<223>

<400> 137

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ttc aac aga aag gaa acc tca ggt ctt att ttt gcc atc atc tct atc	96
Phe Asn Arg Lys Glu Thr Ser Gly Leu Ile Phe Ala Ile Ile Ser Ile	
20 25 30	
atc ttc ttc acc gca ctg atg gcc aat ggg gtt atg atc ttc ctg atc	144
Ile Phe Phe Thr Ala Leu Met Ala Asn Gly Val Met Ile Phe Leu Ile	
35 40 45	
caa aca gat ttg cgc ctt cat aca ccc atg tac ttc ctc ctc agc cac	192
Gln Thr Asp Leu Arg Leu His Thr Pro Met Tyr Phe Leu Leu Ser His	
50 55 60	

ctt tcc tta att gac atg atg tat att tcc act att gtg cct aag atg	240
Leu Ser Leu Ile Asp Met Met Tyr Ile Ser Thr Ile Val Pro Lys Met	
65 70 75 80	
ctg gtt aat tac ctg ctg gat caa agg acc att tcc ttt gtg ggg tgc	288
Leu Val Asn Tyr Leu Leu Asp Gln Arg Thr Ile Ser Phe Val Gly Cys	
85 90 95	
aca gct caa cac ttc ctc tac ctt acc ctt gtg gga gct gaa ttc ttc	336
Thr Ala Gln His Phe Leu Tyr Leu Thr Leu Val Gly Ala Glu Phe Phe	
100 105 110	
ctg ctg ggc ctc atg gcc tat gac cgc tat gtg gcc att tgc aac cct	384
Leu Leu Gly Leu Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn Pro	
115 120 125	
ctg aga tac cct gtc ctc atg agc cgc cgg gtc tgt tgg atg att ata	432
Leu Arg Tyr Pro Val Leu Met Ser Arg Arg Val Cys Trp Met Ile Ile	
130 135 140	
gca ggt tcc tgg ttt ggg ggc tct ttg gat ggc ttc ctc cta acc ccc	480
Ala Gly Ser Trp Phe Gly Gly Ser Leu Asp Gly Phe Leu Leu Thr Pro	
145 150 155 160	
atc acc atg agc ttt ccc ttc tgc aat tcc cgg gag att aac cac ttc	528
Ile Thr Met Ser Phe Pro Phe Cys Asn Ser Arg Glu Ile Asn His Phe	
165 170 175	
ttc tgt gag gca cca gca gtc ctg aag ttg gca tgt gca gac aca gcc	576
Phe Cys Glu Ala Pro Ala Val Leu Lys Leu Ala Cys Ala Asp Thr Ala	
180 185 190	
ctc tac gag aca gtg atg tat gtg tgc tgt gtt ttg atg ctg ctg att	624
Leu Tyr Glu Thr Val Met Tyr Val Cys Cys Val Leu Met Leu Leu Ile	
195 200 205	
cct ttc tct gta gtc ctt gct tcc tat gcc cga atc ctg act aca gtt	672
Pro Phe Ser Val Val Leu Ala Ser Tyr Ala Arg Ile Leu Thr Thr Val	
210 215 220	
cag tgc atg agc tca gtg gag ggc agg aag aag gca ttt gcc act tgc	720
Gln Cys Met Ser Ser Val Glu Gly Arg Lys Lys Ala Phe Ala Thr Cys	
225 230 235 240	
tca tcc cac atg act gtg gtg tcc ttg ttc tac ggg gct gcc atg tac	768
Ser Ser His Met Thr Val Val Ser Leu Phe Tyr Gly Ala Ala Met Tyr	
245 250 255	
acc tac atg ctg cca cat tct tac cac aag cca gcc cag gac aaa gtc	816
Thr Tyr Met Leu Pro His Ser Tyr His Lys Pro Ala Gln Asp Lys Val	
260 265 270	
ctc tct gtg ttt tac acc att ctc aca ccc atg ctg aac ccc ctc atc	864
Leu Ser Val Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro Leu Ile	
275 280 285	
tac agc ctt aga aac aag gat gtg act gga gct ctg aag agg gcc ttg	912
Tyr Ser Leu Arg Asn Lys Asp Val Thr Gly Ala Leu Lys Arg Ala Leu	
290 295 300	
ggg agg ttc aag ggt cct caa agg gtg tca gga ggt gtc ttt tga	957
Gly Arg Phe Lys Gly Pro Gln Arg Val Ser Gly Gly Val Phe	
305 310 315	

<210> 138

<211> 318

<212> PRT

<213> Homo Sapiens

<400> 138

Met Glu Glu Tyr Asn Thr Ser Ser Thr Asp Phe Thr Phe Met Gly Leu
 1 5 10 15

Phe Asn Arg Lys Glu Thr Ser Gly Leu Ile Phe Ala Ile Ile Ser Ile
 20 25 30

Ile Phe Phe Thr Ala Leu Met Ala Asn Gly Val Met Ile Phe Leu Ile
 35 40 45

Gln Thr Asp Leu Arg Leu His Thr Pro Met Tyr Phe Leu Leu Ser His
 50 55 60

Leu Ser Leu Ile Asp Met Met Tyr Ile Ser Thr Ile Val Pro Lys Met
 65 70 75 80

Leu Val Asn Tyr Leu Leu Asp Gln Arg Thr Ile Ser Phe Val Gly Cys
 85 90 95

Thr Ala Gln His Phe Leu Tyr Leu Thr Leu Val Gly Ala Glu Phe Phe
 100 105 110

Leu Leu Gly Leu Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn Pro
 115 120 125

Leu Arg Tyr Pro Val Leu Met Ser Arg Arg Val Cys Trp Met Ile Ile
 130 135 140

Ala Gly Ser Trp Phe Gly Gly Ser Leu Asp Gly Phe Leu Leu Thr Pro
 145 150 155 160

Ile Thr Met Ser Phe Pro Phe Cys Asn Ser Arg Glu Ile Asn His Phe
 165 170 175

Phe Cys Glu Ala Pro Ala Val Leu Lys Leu Ala Cys Ala Asp Thr Ala
 180 185 190

Leu Tyr Glu Thr Val Met Tyr Val Cys Cys Val Leu Met Leu Leu Ile
 195 200 205

Pro Phe Ser Val Val Leu Ala Ser Tyr Ala Arg Ile Leu Thr Thr Val
 210 215 220

Gln Cys Met Ser Ser Val Glu Gly Arg Lys Lys Ala Phe Ala Thr Cys

225		230		235		240
Ser Ser His Met Thr Val Val Ser Leu Phe Tyr Gly Ala Ala Met Tyr						
		245		250		255
Thr Tyr Met Leu Pro His Ser Tyr His Lys Pro Ala Gln Asp Lys Val						
		260		265		270
Leu Ser Val Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro Leu Ile						
		275		280		285
Tyr Ser Leu Arg Asn Lys Asp Val Thr Gly Ala Leu Lys Arg Ala Leu						
		290		295		300
Gly Arg Phe Lys Gly Pro Gln Arg Val Ser Gly Gly Val Phe						
305		310		315		

<210> 139

<211> 975

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (972)

<223>

<400> 139

atg ggc atg gag ggt ctt ctc cag aac tcc act aac ttc gtc ctc aca	48
Met Gly Met Glu Gly Leu Leu Gln Asn Ser Thr Asn Phe Val Leu Thr	
1 5 10 15	
ggc ctc atc acc cat cct gcc ttc ccc ggg ctt ctc ttt gca ata gtc	96
Gly Leu Ile Thr His Pro Ala Phe Pro Gly Leu Leu Phe Ala Ile Val	
20 25 30	
ttc tcc atc ttt gtg gtg gct ata aca gcc aac ttg gtc atg att ctg	144
Phe Ser Ile Phe Val Val Ala Ile Thr Ala Asn Leu Val Met Ile Leu	
35 40 45	
ctc atc cac atg gac tcc cgc ctc cac aca ccc atg tac ttc ttg ctc	192
Leu Ile His Met Asp Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu	
50 55 60	
agc cag ctc tcc atc atg gat acc atc tac atc tgt atc act gtc ccc	240
Ser Gln Leu Ser Ile Met Asp Thr Ile Tyr Ile Cys Ile Thr Val Pro	
65 70 75 80	
aag atg ctc cag gac ctc ctg tcc aag gac aag acc att tcc ttc ctg	288
Lys Met Leu Gln Asp Leu Leu Ser Lys Asp Lys Thr Ile Ser Phe Leu	
85 90 95	

ggc tgt gca gtt cag atc ttc ctc tac ctg acc ctg att gga ggg gaa	336
Gly Cys Ala Val Gln Ile Phe Leu Tyr Leu Thr Leu Ile Gly Gly Glu	
100 105 110	
ttc ttc ctg ctg ggt ctc atg gcc tat gac cgc tat gtg gct gtg tgc	384
Phe Phe Leu Leu Gly Leu Met Ala Tyr Asp Arg Tyr Val Ala Val Cys	
115 120 125	
aac cct cta cgg tac cct ctc ctc atg aac cgc agg gtt tgc tta ttc	432
Asn Pro Leu Arg Tyr Pro Leu Leu Met Asn Arg Arg Val Cys Leu Phe	
130 135 140	
atg gtg gtc ggc tcc tgg gtt ggt ggt tcc ttg gat ggg ttc atg ctg	480
Met Val Val Gly Ser Trp Val Gly Gly Ser Leu Asp Gly Phe Met Leu	
145 150 155 160	
act cct gtc act atg agt ttc ccc ttc tgt aga tcc cga gag atc aat	528
Thr Pro Val Thr Met Ser Phe Pro Phe Cys Arg Ser Arg Glu Ile Asn	
165 170 175	
cac ttt ttc tgt gag atc cca gcc gtg ctg aag ttg tct tgc aca gac	576
His Phe Phe Cys Glu Ile Pro Ala Val Leu Lys Leu Ser Cys Thr Asp	
180 185 190	
acg tca ctc tat gag acc ctg atg tat gcc tgc tgc gtg ctg atg ctg	624
Thr Ser Leu Tyr Glu Thr Leu Met Tyr Ala Cys Cys Val Leu Met Leu	
195 200 205	
ctt atc cct cta tct gtc atc tct gtc tcc tac acg cac atc ctc ctg	672
Leu Ile Pro Leu Ser Val Ile Ser Val Ser Tyr Thr His Ile Leu Leu	
210 215 220	
act gtc cac agg atg aac tct gct gag ggc cgg cgc aaa gcc ttt gct	720
Thr Val His Arg Met Asn Ser Ala Glu Gly Arg Arg Lys Ala Phe Ala	
225 230 235 240	
acg tgt tcc tcc cac att atg gtg gtg agc gtt ttc tac ggg gca gcc	768
Thr Cys Ser Ser His Ile Met Val Val Ser Val Phe Tyr Gly Ala Ala	
245 250 255	
ttc tac acc aac gtg ctg ccc cac tcc tac cac act cca gag aaa gat	816
Phe Tyr Thr Asn Val Leu Pro His Ser Tyr His Thr Pro Glu Lys Asp	
260 265 270	
aaa gtg gtg tct gcc ttc tac acc atc ctc acc ccc atg ctc aac cca	864
Lys Val Val Ser Ala Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro	
275 280 285	
ctc atc tac agc ttg agg aat aaa gat gtg gct gca gct ctg agg aaa	912
Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Ala Ala Ala Leu Arg Lys	
290 295 300	
gta cta ggg aga tgt ggt tcc tcc cag agc atc agg gtg gcg act gtg	960
Val Leu Gly Arg Cys Gly Ser Ser Gln Ser Ile Arg Val Ala Thr Val	
305 310 315 320	
atc agg aag ggc tag	975
Ile Arg Lys Gly	

<210> 140

<211> 324

<212> PRT

<213> Homo Sapiens

<400> 140

Met Gly Met Glu Gly Leu Leu Gln Asn Ser Thr Asn Phe Val Leu Thr
 1 5 10 15

Gly Leu Ile Thr His Pro Ala Phe Pro Gly Leu Leu Phe Ala Ile Val
 20 25 30

Phe Ser Ile Phe Val Val Ala Ile Thr Ala Asn Leu Val Met Ile Leu
 35 40 45

Leu Ile His Met Asp Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu
 50 55 60

Ser Gln Leu Ser Ile Met Asp Thr Ile Tyr Ile Cys Ile Thr Val Pro
 65 70 75 80

Lys Met Leu Gln Asp Leu Leu Ser Lys Asp Lys Thr Ile Ser Phe Leu
 85 90 95

Gly Cys Ala Val Gln Ile Phe Leu Tyr Leu Thr Leu Ile Gly Gly Glu
 100 105 110

Phe Phe Leu Leu Gly Leu Met Ala Tyr Asp Arg Tyr Val Ala Val Cys
 115 120 125

Asn Pro Leu Arg Tyr Pro Leu Leu Met Asn Arg Arg Val Cys Leu Phe
 130 135 140

Met Val Val Gly Ser Trp Val Gly Gly Ser Leu Asp Gly Phe Met Leu
 145 150 155 160

Thr Pro Val Thr Met Ser Phe Pro Phe Cys Arg Ser Arg Glu Ile Asn
 165 170 175

His Phe Phe Cys Glu Ile Pro Ala Val Leu Lys Leu Ser Cys Thr Asp
 180 185 190

Thr Ser Leu Tyr Glu Thr Leu Met Tyr Ala Cys Cys Val Leu Met Leu
 195 200 205

Leu Ile Pro Leu Ser Val Ile Ser Val Ser Tyr Thr His Ile Leu Leu
 210 215 220

Thr Val His Arg Met Asn Ser Ala Glu Gly Arg Arg Lys Ala Phe Ala
 225 230 235 240

Thr Cys Ser Ser His Ile Met Val Val Ser Val Phe Tyr Gly Ala Ala
 245 250 255

Phe Tyr Thr Asn Val Leu Pro His Ser Tyr His Thr Pro Glu Lys Asp
 260 265 270

Lys Val Val Ser Ala Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro
 275 280 285

Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Ala Ala Ala Leu Arg Lys
 290 295 300

Val Leu Gly Arg Cys Gly Ser Ser Gln Ser Ile Arg Val Ala Thr Val
 305 310 315 320

Ile Arg Lys Gly

<210> 141

<211> 940

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(939)

<223>

<400> 141

atg tgc tca ggg aat cag act tct cag aat caa aca gca agc act gat	48
Met Cys Ser Gly Asn Gln Thr Ser Gln Asn Gln Thr Ala Ser Thr Asp	
1 5 10 15	

ttc acc ctc acg gga ctc ttt gct gag agc aag cat gct gcc ctc ctc	96
Phe Thr Leu Thr Gly Leu Phe Ala Glu Ser Lys His Ala Ala Leu Leu	
20 25 30	

tac acc gtg acc ttc ctt ctt ttc ttg atg gcc ctc act ggg aat gcc	144
Tyr Thr Val Thr Phe Leu Leu Phe Leu Met Ala Leu Thr Gly Asn Ala	
35 40 45	

ctc ctc atc ctc ctc atc cac tca gag ccc cgc ctc cac acc ccc atg	192
Leu Leu Ile Leu Leu Ile His Ser Glu Pro Arg Leu His Thr Pro Met	
50 55 60	

tac ttc ttc atc agc cag ctc gcg ctc atg gat ctc atg tac cta tgc	240
Tyr Phe Phe Ile Ser Gln Leu Ala Leu Met Asp Leu Met Tyr Leu Cys	
65 70 75 80	

gtg act gtg ccc aag atg ctt gtg ggc cag gtc act gga gat gat acc	288
Val Thr Val Pro Lys Met Leu Val Gly Gln Val Thr Gly Asp Asp Thr	
85 90 95	

att tcc ccg tca ggc tgt ggg atc cag atg ttc ttc tac ctg acc ctg	336
Ile Ser Pro Ser Gly Cys Gly Ile Gln Met Phe Phe Tyr Leu Thr Leu	
100 105 110	
gct gga gct gag gtt ttc ctc ctg gct gcc atg gcc tat gac cga tat	384
Ala Gly Ala Glu Val Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr	
115 120 125	
gct gct gtt tgc aga cct ctc cat tac cca ctg ctg atg aac cag agg	432
Ala Ala Val Cys Arg Pro Leu His Tyr Pro Leu Leu Met Asn Gln Arg	
130 135 140	
gtg tgc cag ctc ctg gtg tca gcc tgc tgg gtt ttg gga atg gtt gat	480
Val Cys Gln Leu Leu Val Ser Ala Cys Trp Val Leu Gly Met Val Asp	
145 150 155 160	
ggc ttg ttg ctc acc ccc att acc atg agc ttc ccc ttt tgc cag tct	528
Gly Leu Leu Leu Thr Pro Ile Thr Met Ser Phe Pro Phe Cys Gln Ser	
165 170 175	
agg aaa atc ctg agt ttt ttc tgt gag act cct gcc ctg ctg aag ctc	576
Arg Lys Ile Leu Ser Phe Phe Cys Glu Thr Pro Ala Leu Leu Lys Leu	
180 185 190	
tcc tgc tct gac gtc tcc ctc tat aag acg ctc atg tac ctg tgc tgc	624
Ser Cys Ser Asp Val Ser Leu Tyr Lys Thr Leu Met Tyr Leu Cys Cys	
195 200 205	
atc ctc atg ctt ctc gcc ccc atc atg gtc atc tcc agc tca tac acc	672
Ile Leu Met Leu Leu Ala Pro Ile Met Val Ile Ser Ser Ser Tyr Thr	
210 215 220	
ctc atc ctg cat ctc atc cac agg atg aat tct gcc gcc ggc cac agg	720
Leu Ile Leu His Leu Ile His Arg Met Asn Ser Ala Ala Gly His Arg	
225 230 235 240	
aag gcc ttg gcc acc tgc tcc tcc cac atg atc ata gtg ctg ctg ctc	768
Lys Ala Leu Ala Thr Cys Ser Ser His Met Ile Ile Val Leu Leu Leu	
245 250 255	
ttc ggt gct tcc ttc tac acc tac atg ctc ccg agt tcc tac cac aca	816
Phe Gly Ala Ser Phe Tyr Thr Tyr Met Leu Pro Ser Ser Tyr His Thr	
260 265 270	
gct gag cag gac atg atg gtg tct gcc ttt tac acc atc ttc act cct	864
Ala Glu Gln Asp Met Met Val Ser Ala Phe Tyr Thr Ile Phe Thr Pro	
275 280 285	
gtg ctg aac ccc ctc att tac agt ctc cgc aac aaa gat gtc acc agg	912
Val Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Thr Arg	
290 295 300	
gct atg agg agc atg atg cag tca aga a	940
Ala Met Arg Ser Met Met Gln Ser Arg	
305 310	

<210> 142

<211> 313

<212> PRT

<213> Homo Sapiens

<400> 142

Met Cys Ser Gly Asn Gln Thr Ser Gln Asn Gln Thr Ala Ser Thr Asp
1 5 10 15

Phe Thr Leu Thr Gly Leu Phe Ala Glu Ser Lys His Ala Ala Leu Leu
20 25 30

Tyr Thr Val Thr Phe Leu Leu Phe Leu Met Ala Leu Thr Gly Asn Ala
35 40 45

Leu Leu Ile Leu Leu Ile His Ser Glu Pro Arg Leu His Thr Pro Met
50 55 60

Tyr Phe Phe Ile Ser Gln Leu Ala Leu Met Asp Leu Met Tyr Leu Cys
65 70 75 80

Val Thr Val Pro Lys Met Leu Val Gly Gln Val Thr Gly Asp Asp Thr
85 90 95

Ile Ser Pro Ser Gly Cys Gly Ile Gln Met Phe Phe Tyr Leu Thr Leu
100 105 110

Ala Gly Ala Glu Val Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr
115 120 125

Ala Ala Val Cys Arg Pro Leu His Tyr Pro Leu Leu Met Asn Gln Arg
130 135 140

Val Cys Gln Leu Leu Val Ser Ala Cys Trp Val Leu Gly Met Val Asp
145 150 155 160

Gly Leu Leu Leu Thr Pro Ile Thr Met Ser Phe Pro Phe Cys Gln Ser
165 170 175

Arg Lys Ile Leu Ser Phe Phe Cys Glu Thr Pro Ala Leu Leu Lys Leu
180 185 190

Ser Cys Ser Asp Val Ser Leu Tyr Lys Thr Leu Met Tyr Leu Cys Cys
195 200 205

Ile Leu Met Leu Leu Ala Pro Ile Met Val Ile Ser Ser Ser Tyr Thr
210 215 220

Leu Ile Leu His Leu Ile His Arg Met Asn Ser Ala Ala Gly His Arg
225 230 235 240

Lys Ala Leu Ala Thr Cys Ser Ser His Met Ile Ile Val Leu Leu Leu
245 250 255

Phe Gly Ala Ser Phe Tyr Thr Tyr Met Leu Pro Ser Ser Tyr His Thr
260 265 270

Ala Glu Gln Asp Met Met Val Ser Ala Phe Tyr Thr Ile Phe Thr Pro
275 280 285

Val Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Thr Arg
290 295 300

Ala Met Arg Ser Met Met Gln Ser Arg
305 310

<210> 143

<211> 975

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(972)

<223>

<400> 143

atg	gag	agc	ccc	aat	cga	acc	acc	att	cag	gag	ttt	atc	ttc	tcc	gct	48
Met	Glu	Ser	Pro	Asn	Arg	Thr	Thr	Ile	Gln	Glu	Phe	Ile	Phe	Ser	Ala	
1				5				10						15		

ttc	cct	tat	tcc	tgg	gtt	aag	tct	gtt	gtc	tgc	ttt	gtt	cca	ctg	ctc	96
Phe	Pro	Tyr	Ser	Trp	Val	Lys	Ser	Val	Val	Cys	Phe	Val	Pro	Leu	Leu	
			20					25					30			

ttc	atc	tat	gct	ttc	att	gtt	gtt	gga	aac	ctg	gtc	atc	atc	aca	gtg	144
Phe	Ile	Tyr	Ala	Phe	Ile	Val	Val	Gly	Asn	Leu	Val	Ile	Ile	Thr	Val	
			35				40					45				

gtc	cag	ttg	aat	act	cac	ctc	cac	act	ccc	atg	tat	act	ttt	atc	agt	192
Val	Gln	Leu	Asn	Thr	His	Leu	His	Thr	Pro	Met	Tyr	Thr	Phe	Ile	Ser	
		50				55					60					

gct	ctt	tct	ttc	ctg	gag	att	tgg	tat	acc	aca	gcc	aca	atc	cca	aag	240
Ala	Leu	Ser	Phe	Leu	Glu	Ile	Trp	Tyr	Thr	Thr	Ala	Thr	Ile	Pro	Lys	
65					70				75						80	

atg	ctg	tct	agc	ctg	ctt	agt	gag	agg	agc	att	tcc	ttc	aat	ggt	tgt	288
Met	Leu	Ser	Ser	Leu	Leu	Ser	Glu	Arg	Ser	Ile	Ser	Phe	Asn	Gly	Cys	
				85				90					95			

ctc	ctg	cag	atg	tat	ttc	ttc	cat	tcc	acc	ggc	atc	tgt	gag	gtg	tgt	336
Leu	Leu	Gln	Met	Tyr	Phe	Phe	His	Ser	Thr	Gly	Ile	Cys	Glu	Val	Cys	
			100					105					110			

ctc	ttg	aca	gtt	atg	gcc	ttt	gac	cac	tac	ctg	gcc	ata	tgc	agc	cct	384
Leu	Leu	Thr	Val	Met	Ala	Phe	Asp	His	Tyr	Leu	Ala	Ile	Cys	Ser	Pro	
		115					120					125				

ctt cat tat ccc tct atc atg acc ccc aag cta tgt acc caa ctg act 432
 Leu His Tyr Pro Ser Ile Met Thr Pro Lys Leu Cys Thr Gln Leu Thr
 130 135 140

tta agt tgc tgt gtt tgt ggc ttt atc aca ccc ctt cct gag att gcc 480
 Leu Ser Cys Cys Val Cys Gly Phe Ile Thr Pro Leu Pro Glu Ile Ala
 145 150 155 160

tgg atc tct aca ctg cca ttt tgt ggt tgc aat cac ctt gaa cat atc 528
 Trp Ile Ser Thr Leu Pro Phe Cys Gly Ser Asn His Leu Glu His Ile
 165 170 175

ttc tgt gac ttc ctc cca gtg ctg cgt ctg gcc tgc aca gac aca cga 576
 Phe Cys Asp Phe Leu Pro Val Leu Arg Leu Ala Cys Thr Asp Thr Arg
 180 185 190

gcc atc gtc atg att cag gta gtg gat gtc att cat gca gtg gag att 624
 Ala Ile Val Met Ile Gln Val Val Asp Val Ile His Ala Val Glu Ile
 195 200 205

att aca gct gtg atg ctc atc ttc atg tcc tac gat ggt att gtg gct 672
 Ile Thr Ala Val Met Leu Ile Phe Met Ser Tyr Asp Gly Ile Val Ala
 210 215 220

gta att cta cgt att cat tca gct gga ggc cgc cgc aca gca ttt tcc 720
 Val Ile Leu Arg Ile His Ser Ala Gly Gly Arg Arg Thr Ala Phe Ser
 225 230 235 240

acg tgt gtc tct cac ttc att gtc ttt tgc ctc ttc ttt ggc agt gtg 768
 Thr Cys Val Ser His Phe Ile Val Phe Ser Leu Phe Phe Gly Ser Val
 245 250 255

act ctc atg tac cta cgc ttc tct gcc acc tac tct ttg ttc tgg gat 816
 Thr Leu Met Tyr Leu Arg Phe Ser Ala Thr Tyr Ser Leu Phe Trp Asp
 260 265 270

ata gcc att gct ctg gcc ttt gca gtt ttg tct ccc ttc ttc aac ccc 864
 Ile Ala Ile Ala Leu Ala Phe Ala Val Leu Ser Pro Phe Phe Asn Pro
 275 280 285

att atc tat agc ctg agg aat aaa gaa ata aaa gaa gct ata aaa aag 912
 Ile Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Glu Ala Ile Lys Lys
 290 295 300

cac ata ggt caa gct aag ata ttt ttt tcc gta aga cca ggg acc tca 960
 His Ile Gly Gln Ala Lys Ile Phe Phe Ser Val Arg Pro Gly Thr Ser
 305 310 315 320

agt aag ata ttt tag 975
 Ser Lys Ile Phe

<210> 144

<211> 324

<212> PRT

<213> Homo Sapiens

<400> 144

Met Glu Ser Pro Asn Arg Thr Thr Ile Gln Glu Phe Ile Phe Ser Ala

1	5	10	15
Phe Pro Tyr Ser Trp Val Lys Ser Val Val Cys Phe Val Pro Leu Leu	20	25	30
Phe Ile Tyr Ala Phe Ile Val Val Gly Asn Leu Val Ile Ile Thr Val	35	40	45
Val Gln Leu Asn Thr His Leu His Thr Pro Met Tyr Thr Phe Ile Ser	50	55	60
Ala Leu Ser Phe Leu Glu Ile Trp Tyr Thr Thr Ala Thr Ile Pro Lys	65	70	75
Met Leu Ser Ser Leu Leu Ser Glu Arg Ser Ile Ser Phe Asn Gly Cys	85	90	95
Leu Leu Gln Met Tyr Phe Phe His Ser Thr Gly Ile Cys Glu Val Cys	100	105	110
Leu Leu Thr Val Met Ala Phe Asp His Tyr Leu Ala Ile Cys Ser Pro	115	120	125
Leu His Tyr Pro Ser Ile Met Thr Pro Lys Leu Cys Thr Gln Leu Thr	130	135	140
Leu Ser Cys Cys Val Cys Gly Phe Ile Thr Pro Leu Pro Glu Ile Ala	145	150	155
Trp Ile Ser Thr Leu Pro Phe Cys Gly Ser Asn His Leu Glu His Ile	165	170	175
Phe Cys Asp Phe Leu Pro Val Leu Arg Leu Ala Cys Thr Asp Thr Arg	180	185	190
Ala Ile Val Met Ile Gln Val Val Asp Val Ile His Ala Val Glu Ile	195	200	205
Ile Thr Ala Val Met Leu Ile Phe Met Ser Tyr Asp Gly Ile Val Ala	210	215	220
Val Ile Leu Arg Ile His Ser Ala Gly Gly Arg Arg Thr Ala Phe Ser	225	230	235
Thr Cys Val Ser His Phe Ile Val Phe Ser Leu Phe Phe Gly Ser Val	245	250	255
Thr Leu Met Tyr Leu Arg Phe Ser Ala Thr Tyr Ser Leu Phe Trp Asp	260	265	270

Ile Ala Ile Ala Leu Ala Phe Ala Val Leu Ser Pro Phe Phe Asn Pro
 275 280 285

Ile Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Glu Ala Ile Lys Lys
 290 295 300

His Ile Gly Gln Ala Lys Ile Phe Phe Ser Val Arg Pro Gly Thr Ser
 305 310 315 320

Ser Lys Ile Phe

<210> 145

<211> 954

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(951)

<223>

<400> 145

atg gat caa tac aac cat tca agc ctg gct gaa ttt gtg ttc ctt ggc 48
 Met Asp Gln Tyr Asn His Ser Ser Leu Ala Glu Phe Val Phe Leu Gly
 1 5 10 15

ttt gcc agt gtg ggc tat gtc agg ggc tgg ctt ttt gtc ctg ctg cta 96
 Phe Ala Ser Val Gly Tyr Val Arg Gly Trp Leu Phe Val Leu Leu Leu
 20 25 30

ttg gca tac ctg ttc acc atc tgt ggt aac atg ctc atc ttc tca gtc 144
 Leu Ala Tyr Leu Phe Thr Ile Cys Gly Asn Met Leu Ile Phe Ser Val
 35 40 45

atc cga ctg gat gca gct ctg cac aca cct atg tac cac ttt gtc agt 192
 Ile Arg Leu Asp Ala Ala Leu His Thr Pro Met Tyr His Phe Val Ser
 50 55 60

gtt ctt tcc ttc ttg gag ttg tgg tat aca gct acc act atc cct aag 240
 Val Leu Ser Phe Leu Glu Leu Trp Tyr Thr Ala Thr Thr Ile Pro Lys
 65 70 75 80

atg ttg tct aat att ctc agt gag aag aaa acc att tct ttt gca gga 288
 Met Leu Ser Asn Ile Leu Ser Glu Lys Lys Thr Ile Ser Phe Ala Gly
 85 90 95

tgc ctc ctt cag acc tac ttc ttc cac tcc ttg gga gcg tct gaa tgc 336
 Cys Leu Leu Gln Thr Tyr Phe Phe His Ser Leu Gly Ala Ser Glu Cys
 100 105 110

tac ctt ctt aca gcc atg gcc tat gat aga tac ctg gcc att tgt cgg 384
 Tyr Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Arg

115	120	125	
ccc ctc cac tac cct ata att atg acc acc aca ctc tgt gcc aag atg Pro Leu His Tyr Pro Ile Ile Met Thr Thr Thr Leu Cys Ala Lys Met 130 135 140			432
gct gct gct tgt tgg act tgt ggc ttc ctg tgt ccc att tct gag gtc Ala Ala Ala Cys Trp Thr Cys Gly Phe Leu Cys Pro Ile Ser Glu Val 145 150 155 160			480
atc ctt gcc tcc cag ctc cca ttt tgt gct tac aat gaa atc caa cac Ile Leu Ala Ser Gln Leu Pro Phe Cys Ala Tyr Asn Glu Ile Gln His 165 170 175			528
att ttc tgt gac ttt cca cct ttg ctg agc ttg gcc tgc aag gac aca Ile Phe Cys Asp Phe Pro Pro Leu Leu Ser Leu Ala Cys Lys Asp Thr 180 185 190			576
tct gct aac att ctg gtg gac ttt gcc att aat gct ttc ata att ctt Ser Ala Asn Ile Leu Val Asp Phe Ala Ile Asn Ala Phe Ile Ile Leu 195 200 205			624
atc act ttc ttc ttt atc atg att tct tat gca agg atc att ggg gct Ile Thr Phe Phe Phe Ile Met Ile Ser Tyr Ala Arg Ile Ile Gly Ala 210 215 220			672
gtg ctg aag ata aaa aca gca tca gga aga aag aag gcc ttt tct acc Val Leu Lys Ile Lys Thr Ala Ser Gly Arg Lys Lys Ala Phe Ser Thr 225 230 235 240			720
tgt gcc tca cat ctt gct gtg gtc ctc atc ttc ttt ggg agc atc atc Cys Ala Ser His Leu Ala Val Val Leu Ile Phe Phe Gly Ser Ile Ile 245 250 255			768
ttc atg tat gtg cgg cta aag aag agc tat tcc ctg acc ctt gac cga Phe Met Tyr Val Arg Leu Lys Lys Ser Tyr Ser Leu Thr Leu Asp Arg 260 265 270			816
aca ctt gct ata gtt tac tcc gta cta aca cca atg gtc aat cca att Thr Leu Ala Ile Val Tyr Ser Val Leu Thr Pro Met Val Asn Pro Ile 275 280 285			864
atc tac agt ctt cgt aac aag gaa atc att aaa gct atc aag agg acc Ile Tyr Ser Leu Arg Asn Lys Glu Ile Ile Lys Ala Ile Lys Arg Thr 290 295 300			912
atc ttc cag aag gga gat aaa gct agt ctt gct cat ctt tga Ile Phe Gln Lys Gly Asp Lys Ala Ser Leu Ala His Leu . 305 310 315			954

<210> 146

<211> 317

<212> PRT

<213> Homo Sapiens

<400> 146

Met	Asp	Gln	Tyr	Asn	His	Ser	Ser	Leu	Ala	Glu	Phe	Val	Phe	Leu	Gly
1				5					10					15	

Phe Ala Ser Val Gly Tyr Val Arg Gly Trp Leu Phe Val Leu Leu Leu
 20 25 30

Leu Ala Tyr Leu Phe Thr Ile Cys Gly Asn Met Leu Ile Phe Ser Val
 35 40 45

Ile Arg Leu Asp Ala Ala Leu His Thr Pro Met Tyr His Phe Val Ser
 50 55 60

Val Leu Ser Phe Leu Glu Leu Trp Tyr Thr Ala Thr Thr Ile Pro Lys
 65 70 75 80

Met Leu Ser Asn Ile Leu Ser Glu Lys Lys Thr Ile Ser Phe Ala Gly
 85 90 95

Cys Leu Leu Gln Thr Tyr Phe Phe His Ser Leu Gly Ala Ser Glu Cys
 100 105 110

Tyr Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Arg
 115 120 125

Pro Leu His Tyr Pro Ile Ile Met Thr Thr Thr Leu Cys Ala Lys Met
 130 135 140

Ala Ala Ala Cys Trp Thr Cys Gly Phe Leu Cys Pro Ile Ser Glu Val
 145 150 155 160

Ile Leu Ala Ser Gln Leu Pro Phe Cys Ala Tyr Asn Glu Ile Gln His
 165 170 175

Ile Phe Cys Asp Phe Pro Pro Leu Leu Ser Leu Ala Cys Lys Asp Thr
 180 185 190

Ser Ala Asn Ile Leu Val Asp Phe Ala Ile Asn Ala Phe Ile Ile Leu
 195 200 205

Ile Thr Phe Phe Phe Ile Met Ile Ser Tyr Ala Arg Ile Ile Gly Ala
 210 215 220

Val Leu Lys Ile Lys Thr Ala Ser Gly Arg Lys Lys Ala Phe Ser Thr
 225 230 235 240

Cys Ala Ser His Leu Ala Val Val Leu Ile Phe Phe Gly Ser Ile Ile
 245 250 255

Phe Met Tyr Val Arg Leu Lys Lys Ser Tyr Ser Leu Thr Leu Asp Arg
 260 265 270

Thr Leu Ala Ile Val Tyr Ser Val Leu Thr Pro Met Val Asn Pro Ile
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Ile Ile Lys Ala Ile Lys Arg Thr
 290 295 300

Ile Phe Gln Lys Gly Asp Lys Ala Ser Leu Ala His Leu
 305 310 315

<210> 147

<211> 975

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (972)

<223>

<400> 147

atg aat gag aca aat cat tct cgg gtg aca gaa ttt gtg ttg ctg gga 48
 Met Asn Glu Thr Asn His Ser Arg Val Thr Glu Phe Val Leu Leu Gly
 1 5 10 15

ctg tct agt tca agg gag ctc caa cct ttc ttg ttt ctt aca ttt tca 96
 Leu Ser Ser Ser Arg Glu Leu Gln Pro Phe Leu Phe Leu Thr Phe Ser
 20 25 30

cta ctt tat cta gca att ctg ttg ggc aac ttt ctc atc atc ctc act 144
 Leu Leu Tyr Leu Ala Ile Leu Leu Gly Asn Phe Leu Ile Ile Leu Thr
 35 40 45

gtg acc tca gat tcc cgc ctt cac acc ccc atg tac ttt ctg ctt gca 192
 Val Thr Ser Asp Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu Ala
 50 55 60

aac ctg tca ttt ata gac gta tgt gtt gcc tct ttt gct acc cct aaa 240
 Asn Leu Ser Phe Ile Asp Val Cys Val Ala Ser Phe Ala Thr Pro Lys
 65 70 75 80

atg att gca gac ttt ctg gtt gag cgc aag act att tct ttt gat gcc 288
 Met Ile Ala Asp Phe Leu Val Glu Arg Lys Thr Ile Ser Phe Asp Ala
 85 90 95

tgc ctg gcc cag att ttc ttt gtt cat ctc ttc act ggc agt gaa atg 336
 Cys Leu Ala Gln Ile Phe Phe Val His Leu Phe Thr Gly Ser Glu Met
 100 105 110

gtg ctc cta gtt tcc atg gcc tat gac cgt tat gtt gct ata tgc aaa 384
 Val Leu Leu Val Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys
 115 120 125

cct ctc cac tac atg aca gtc atg agc cgt cgt gta tgt gtt gtg ctc 432
 Pro Leu His Tyr Met Thr Val Met Ser Arg Arg Val Cys Val Val Leu
 130 135 140

gtc ctc att tca tgg ttt gtg ggc ttc atc cat act acc agc cag ttg 480

Val 145	Leu	Ile	Ser	Trp	Phe 150	Val	Gly	Phe	Ile	His 155	Thr	Thr	Ser	Gln	Leu 160	
gca	ttc	act	gtt	aat	ctg	cca	ttt	tgt	ggg	cct	aat	aag	gta	gac	agt	528
Ala	Phe	Thr	Val	Asn 165	Leu	Pro	Phe	Cys 170	Gly	Pro	Asn	Lys	Val	Asp 175	Ser	
ttt	ttc	tgt	gac	ctt	cct	cta	gtg	acc	aag	tta	gcc	tgc	ata	gac	act	576
Phe	Phe	Cys	Asp 180	Leu	Pro	Leu	Val	Thr 185	Lys	Leu	Ala	Cys	Ile	Asp 190	Thr	
tat	gtt	gtc	agc	tta	cta	ata	gtt	gca	gat	agt	ggc	ttt	ctt	tct	ctg	624
Tyr	Val	Val	Ser	Leu	Leu	Ile	Val 200	Ala	Asp	Ser	Gly	Phe 205	Leu	Ser	Leu	
agt	tcc	ttt	ctc	ctc	ttg	gtt	gtc	tcc	tac	act	gta	ata	ctt	gtt	aca	672
Ser	Ser	Phe	Leu	Leu	Leu	Val 215	Val	Ser	Tyr	Thr	Val 220	Ile	Leu	Val	Thr	
gtt	agg	aat	cgc	tcc	tct	gca	agc	atg	gcg	aag	gcc	cgc	tcc	aca	ttg	720
Val	Arg	Asn	Arg	Ser	Ser	Ala 230	Ser	Met	Ala	Lys 235	Ala	Arg	Ser	Thr	Leu 240	
act	gct	cac	atc	act	gtg	gtc	act	tta	ttc	ttt	gga	cca	tgc	att	ttc	768
Thr	Ala	His	Ile	Thr 245	Val	Val	Thr	Leu	Phe 250	Phe	Gly	Pro	Cys	Ile 255	Phe	
atc	tat	gtg	tgg	ccc	ttc	agc	agt	tac	tca	gtt	gac	aaa	gtc	ctt	gct	816
Ile	Tyr	Val	Trp 260	Pro	Phe	Ser	Ser	Tyr	Ser	Val	Asp	Lys	Val 270	Leu	Ala	
gta	ttc	tac	acc	atc	ttc	acg	ctt	att	tta	aac	cct	gta	atc	tac	acg	864
Val	Phe	Tyr	Thr 275	Ile	Phe	Thr	Leu 280	Ile	Leu	Asn	Pro	Val 285	Ile	Tyr	Thr	
cta	aga	aac	aaa	gaa	gtg	aag	gca	gct	atg	tca	aaa	ctg	aag	agt	cgg	912
Leu	Arg	Asn	Lys	Glu	Val	Lys 295	Ala	Ala	Met	Ser	Lys 300	Leu	Lys	Ser	Arg	
tat	ctg	aag	cct	agt	cag	gtt	tct	gta	gtc	ata	aga	aat	gtt	ctt	ttc	960
Tyr	Leu	Lys	Pro	Ser	Gln 310	Val	Ser	Val	Val	Ile 315	Arg	Asn	Val	Leu 320	Phe	
cta	gaa	aca	aag	taa												975
Leu	Glu	Thr	Lys													

<210> 148

<211> 324

<212> PRT

<213> Homo Sapiens

<400> 148

Met 1	Asn	Glu	Thr	Asn 5	His	Ser	Arg	Val 10	Thr	Glu	Phe	Val	Leu	Leu	Gly 15
Leu	Ser	Ser	Ser	Arg	Glu	Leu	Gln 20	Pro 25	Phe	Leu	Phe	Leu	Thr 30	Phe	Ser

Leu Leu Tyr Leu Ala Ile Leu Leu Gly Asn Phe Leu Ile Ile Leu Thr
 35 40 45

Val Thr Ser Asp Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu Ala
 50 55 60

Asn Leu Ser Phe Ile Asp Val Cys Val Ala Ser Phe Ala Thr Pro Lys
 65 70 75 80

Met Ile Ala Asp Phe Leu Val Glu Arg Lys Thr Ile Ser Phe Asp Ala
 85 90 95

Cys Leu Ala Gln Ile Phe Phe Val His Leu Phe Thr Gly Ser Glu Met
 100 105 110

Val Leu Leu Val Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys
 115 120 125

Pro Leu His Tyr Met Thr Val Met Ser Arg Arg Val Cys Val Val Leu
 130 135 140

Val Leu Ile Ser Trp Phe Val Gly Phe Ile His Thr Thr Ser Gln Leu
 145 150 155 160

Ala Phe Thr Val Asn Leu Pro Phe Cys Gly Pro Asn Lys Val Asp Ser
 165 170 175

Phe Phe Cys Asp Leu Pro Leu Val Thr Lys Leu Ala Cys Ile Asp Thr
 180 185 190

Tyr Val Val Ser Leu Leu Ile Val Ala Asp Ser Gly Phe Leu Ser Leu
 195 200 205

Ser Ser Phe Leu Leu Leu Val Val Ser Tyr Thr Val Ile Leu Val Thr
 210 215 220

Val Arg Asn Arg Ser Ser Ala Ser Met Ala Lys Ala Arg Ser Thr Leu
 225 230 235 240

Thr Ala His Ile Thr Val Val Thr Leu Phe Phe Gly Pro Cys Ile Phe
 245 250 255

Ile Tyr Val Trp Pro Phe Ser Ser Tyr Ser Val Asp Lys Val Leu Ala
 260 265 270

Val Phe Tyr Thr Ile Phe Thr Leu Ile Leu Asn Pro Val Ile Tyr Thr
 275 280 285

Leu Arg Asn Lys Glu Val Lys Ala Ala Met Ser Lys Leu Lys Ser Arg
 290 295 300

Tyr Leu Lys Pro Ser Gln Val Ser Val Val Ile Arg Asn Val Leu Phe
 305 310 315 320

Leu Glu Thr Lys

<210> 149

<211> 927

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(924)

<223>

<400> 149

atg gcc atg gac aat gtc aca gca gtg ttt cag ttt ctc ctt att ggc	48
Met Ala Met Asp Asn Val Thr Ala Val Phe Gln Phe Leu Leu Ile Gly	
1 5 10 15	

att tct aac tat cct caa tgg aga gac acg ttt ttc aca tta gtg ctg	96
Ile Ser Asn Tyr Pro Gln Trp Arg Asp Thr Phe Phe Thr Leu Val Leu	
20 25 30	

ata att tac ctc agc aca ttg ttg ggg aat gga ttt atg atc ttt ctt	144
Ile Ile Tyr Leu Ser Thr Leu Leu Gly Asn Gly Phe Met Ile Phe Leu	
35 40 45	

att cac ttt gac ccc aac ctc cac act cca atc tac ttc ttc ctt agt	192
Ile His Phe Asp Pro Asn Leu His Thr Pro Ile Tyr Phe Phe Leu Ser	
50 55 60	

aac ctg tct ttc tta gac ctt tgt tat gga aca gct tcc atg ccc cag	240
Asn Leu Ser Phe Leu Asp Leu Cys Tyr Gly Thr Ala Ser Met Pro Gln	
65 70 75 80	

gct ttg gtg cat tgt ttc tct acc cat ccc tac ctc tct tat ccc cga	288
Ala Leu Val His Cys Phe Ser Thr His Pro Tyr Leu Ser Tyr Pro Arg	
85 90 95	

tgt ttg gct caa acg agt gtc tcc ttg gct ttg gcc aca gca gag tgc	336
Cys Leu Ala Gln Thr Ser Val Ser Leu Ala Leu Ala Thr Ala Glu Cys	
100 105 110	

ctc cta ctg gct gcc atg gcc tat gac cgt gtg gtt gct atc agc aat	384
Leu Leu Leu Ala Ala Met Ala Tyr Asp Arg Val Val Ala Ile Ser Asn	
115 120 125	

ccc ctg cgt tat tca gtg gtt atg aat ggc cca gtg tgt gtc tgc ttg	432
Pro Leu Arg Tyr Ser Val Val Met Asn Gly Pro Val Cys Val Cys Leu	
130 135 140	

gtt gct acc tca tgg ggg aca tca ctt gtg ctc act gcc atg ctc atc 480
 Val Ala Thr Ser Trp Gly Thr Ser Leu Val Leu Thr Ala Met Leu Ile
 145 150 155 160

 cta tcc ctg agg ctt cac ttc tgt ggg gct aat gtc atc aac cat ttt 528
 Leu Ser Leu Arg Leu His Phe Cys Gly Ala Asn Val Ile Asn His Phe
 165 170 175

 gcc tgt gag att ctc tcc ctc att aag ctg acc tgt tct gat acc agc 576
 Ala Cys Glu Ile Leu Ser Leu Ile Lys Leu Thr Cys Ser Asp Thr Ser
 180 185 190

 ctc aat gaa ttt atg atc ctc atc acc agt atc ttc acc ctg ctg cta 624
 Leu Asn Glu Phe Met Ile Leu Ile Thr Ser Ile Phe Thr Leu Leu Leu
 195 200 205

 cca ttt ggg ttt gtt ctc ctc tcc tac ata cga att gct atg gct atc 672
 Pro Phe Gly Phe Val Leu Leu Ser Tyr Ile Arg Ile Ala Met Ala Ile
 210 215 220

 ata agg att cgc tca ctc cag ggc agg ctc aag gcc ttt acc aca tgt 720
 Ile Arg Ile Arg Ser Leu Gln Gly Arg Leu Lys Ala Phe Thr Thr Cys
 225 230 235 240

 ggc tct cac ctg acc gtg gtg aca atc ttc tat ggg tca gcc atc tcc 768
 Gly Ser His Leu Thr Val Val Thr Ile Phe Tyr Gly Ser Ala Ile Ser
 245 250 255

 atg tat atg aaa act cag tcc aag tcc tcc cct gac cag gac aag ttt 816
 Met Tyr Met Lys Thr Gln Ser Lys Ser Ser Pro Asp Gln Asp Lys Phe
 260 265 270

 atc tca gtg ttt tat gga gct ttg aca ccc atg ttg aac ccc ctg ata 864
 Ile Ser Val Phe Tyr Gly Ala Leu Thr Pro Met Leu Asn Pro Leu Ile
 275 280 285

 tat agc ctg aga aaa aaa gat gtt aaa cgg gca ata agg aaa gtt atg 912
 Tyr Ser Leu Arg Lys Lys Asp Val Lys Arg Ala Ile Arg Lys Val Met
 290 295 300

 ttg aaa agg aca tga 927
 Leu Lys Arg Thr
 305

<210> 150

<211> 308

<212> PRT

<213> Homo Sapiens

<400> 150

Met Ala Met Asp Asn Val Thr Ala Val Phe Gln Phe Leu Leu Ile Gly
 1 5 10 15

Ile Ser Asn Tyr Pro Gln Trp Arg Asp Thr Phe Phe Thr Leu Val Leu
 20 25 30

Ile Ile Tyr Leu Ser Thr Leu Leu Gly Asn Gly Phe Met Ile Phe Leu
 35 40 45

Ile His Phe Asp Pro Asn Leu His Thr Pro Ile Tyr Phe Phe Leu Ser
50 55 60

Asn Leu Ser Phe Leu Asp Leu Cys Tyr Gly Thr Ala Ser Met Pro Gln
65 70 75 80

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

Cys Leu Ala Gln Thr Ser Val Ser Leu Ala Leu Ala Thr Ala Glu Cys
100 105 110

Leu Leu Leu Ala Ala Met Ala Tyr Asp Arg Val Val Ala Ile Ser Asn
115 120 125

Pro Leu Arg Tyr Ser Val Val Met Asn Gly Pro Val Cys Val Cys Leu
130 135 140

Val Ala Thr Ser Trp Gly Thr Ser Leu Val Leu Thr Ala Met Leu Ile
145 150 155 160

Leu Ser Leu Arg Leu His Phe Cys Gly Ala Asn Val Ile Asn His Phe
165 170 175

Ala Cys Glu Ile Leu Ser Leu Ile Lys Leu Thr Cys Ser Asp Thr Ser
180 185 190

Leu Asn Glu Phe Met Ile Leu Ile Thr Ser Ile Phe Thr Leu Leu Leu
195 200 205

Pro Phe Gly Phe Val Leu Leu Ser Tyr Ile Arg Ile Ala Met Ala Ile
210 215 220

Ile Arg Ile Arg Ser Leu Gln Gly Arg Leu Lys Ala Phe Thr Thr Cys
225 230 235 240

Gly Ser His Leu Thr Val Val Thr Ile Phe Tyr Gly Ser Ala Ile Ser
245 250 255

Met Tyr Met Lys Thr Gln Ser Lys Ser Ser Pro Asp Gln Asp Lys Phe
260 265 270

Ile Ser Val Phe Tyr Gly Ala Leu Thr Pro Met Leu Asn Pro Leu Ile
275 280 285

Tyr Ser Leu Arg Lys Lys Asp Val Lys Arg Ala Ile Arg Lys Val Met
290 295 300

Leu Lys Arg Thr
305

<210> 151

<211> 948

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (945)

<223>

<400> 151

atg	aga	cag	aat	aac	aat	att	aca	gaa	ttt	gtc	ctc	ctg	ggc	ttt	tct	48
Met	Arg	Gln	Asn	Asn	Asn	Ile	Thr	Glu	Phe	Val	Leu	Leu	Gly	Phe	Ser	
1			5					10						15		
cag	gat	cct	ggg	gtg	caa	aaa	gca	tta	ttt	gtc	atg	ttt	tta	ctc	aca	96
Gln	Asp	Pro	Gly	Val	Gln	Lys	Ala	Leu	Phe	Val	Met	Phe	Leu	Leu	Thr	
		20					25						30			
tac	ttg	gtg	aca	gtg	gtg	ggg	aac	ctg	ctc	att	gtg	gtg	gat	att	att	144
Tyr	Leu	Val	Thr	Val	Val	Gly	Asn	Leu	Leu	Ile	Val	Val	Asp	Ile	Ile	
		35				40						45				
gcc	agc	cct	tcc	ttg	ggg	tcc	cca	atg	tat	ttc	ttc	ctt	gcc	tgc	ctg	192
Ala	Ser	Pro	Ser	Leu	Gly	Ser	Pro	Met	Tyr	Phe	Phe	Leu	Ala	Cys	Leu	
	50					55					60					
tca	ttt	ata	gat	gct	gca	tat	tcc	act	acc	att	tct	ccc	aag	tta	att	240
Ser	Phe	Ile	Asp	Ala	Ala	Tyr	Ser	Thr	Thr	Ile	Ser	Pro	Lys	Leu	Ile	
65				70						75					80	
gta	ggc	tta	ttc	tgt	gat	aaa	aag	act	att	tcc	ttc	caa	ggg	tgc	atg	288
Val	Gly	Leu	Phe	Cys	Asp	Lys	Lys	Thr	Ile	Ser	Phe	Gln	Gly	Cys	Met	
			85					90						95		
ggc	cag	cta	ttt	ata	gac	cat	ttc	ttt	ggg	ggg	gct	gag	gtc	ttc	ctt	336
Gly	Gln	Leu	Phe	Ile	Asp	His	Phe	Phe	Gly	Gly	Ala	Glu	Val	Phe	Leu	
		100					105						110			
ctg	gtg	gtg	atg	gcc	tgt	gat	cgc	tat	gtg	gcc	atc	tgt	aag	cca	ctg	384
Leu	Val	Val	Met	Ala	Cys	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Lys	Pro	Leu	
		115					120					125				
cac	tat	ttg	acc	atc	atg	aat	cga	cag	gtt	tgc	ttc	ctt	ctg	ttg	gtg	432
His	Tyr	Leu	Thr	Ile	Met	Asn	Arg	Gln	Val	Cys	Phe	Leu	Leu	Leu	Val	
	130					135					140					
gtg	gcc	atg	att	gga	ggg	ttt	gta	cat	tct	gcg	ttt	caa	att	gtt	gtg	480
Val	Ala	Met	Ile	Gly	Gly	Phe	Val	His	Ser	Ala	Phe	Gln	Ile	Val	Val	
145				150						155					160	
tac	agt	ctc	cct	atc	tgt	ggg	ccc	aat	gtc	att	gtt	cat	ttc	agt	tgt	528
Tyr	Ser	Leu	Pro	Ile	Cys	Gly	Pro	Asn	Val	Ile	Val	His	Phe	Ser	Cys	
				165					170					175		

gac atg cac cca tta ctg gaa ctg gca tgc act gac acc tac ttt ata 576
 Asp Met His Pro Leu Leu Glu Leu Ala Cys Thr Asp Thr Tyr Phe Ile
 180 185 190

ggc ctc act gtt gtt gtc aat agt gga gca atc tgt atg gtc att ttc 624
 Gly Leu Thr Val Val Val Asn Ser Gly Ala Ile Cys Met Val Ile Phe
 195 200 205

aac ctt ctg tta atc tcc tat gga gtc atc cta agc tcc ctt aaa act 672
 Asn Leu Leu Leu Ile Ser Tyr Gly Val Ile Leu Ser Ser Leu Lys Thr
 210 215 220

tac agt cag gaa aag agg ggt aaa gcc ttg tct acc tgc agc tcc ggc 720
 Tyr Ser Gln Glu Lys Arg Gly Lys Ala Leu Ser Thr Cys Ser Ser Gly
 225 230 235 240

agt acc gtt gtt gtc ctc ttt ttt gta ccc tgt att ttc ata tat gtt 768
 Ser Thr Val Val Val Leu Phe Phe Val Pro Cys Ile Phe Ile Tyr Val
 245 250 255

aga cct gtt tca aac ttt cct act gat aag ttc atg act gtg ttt tat 816
 Arg Pro Val Ser Asn Phe Pro Thr Asp Lys Phe Met Thr Val Phe Tyr
 260 265 270

acc att atc aca cac atg ctg agt cct tta ata tat acg ttg aga aat 864
 Thr Ile Ile Thr His Met Leu Ser Pro Leu Ile Tyr Thr Leu Arg Asn
 275 280 285

tca gag atg aga aat gct ata gaa aaa ctc ttg ggt aaa aag tta act 912
 Ser Glu Met Arg Asn Ala Ile Glu Lys Leu Leu Gly Lys Lys Leu Thr
 290 295 300

ata ttt att ata gga gga gtg tcc gtc ctc atg tag 948
 Ile Phe Ile Ile Gly Gly Val Ser Val Leu Met
 305 310 315

<210> 152

<211> 315

<212> PRT

<213> Homo Sapiens

<400> 152

Met Arg Gln Asn Asn Asn Ile Thr Glu Phe Val Leu Leu Gly Phe Ser
 1 5 10 15

Gln Asp Pro Gly Val Gln Lys Ala Leu Phe Val Met Phe Leu Leu Thr
 20 25 30

Tyr Leu Val Thr Val Val Gly Asn Leu Leu Ile Val Val Asp Ile Ile
 35 40 45

Ala Ser Pro Ser Leu Gly Ser Pro Met Tyr Phe Phe Leu Ala Cys Leu
 50 55 60

Ser Phe Ile Asp Ala Ala Tyr Ser Thr Thr Ile Ser Pro Lys Leu Ile
 65 70 75 80

Val Gly Leu Phe Cys Asp Lys Lys Thr Ile Ser Phe Gln Gly Cys Met
85 90 95

Gly Gln Leu Phe Ile Asp His Phe Phe Gly Gly Ala Glu Val Phe Leu
100 105 110

Leu Val Val Met Ala Cys Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu
115 120 125

His Tyr Leu Thr Ile Met Asn Arg Gln Val Cys Phe Leu Leu Leu Val
130 135 140

Val Ala Met Ile Gly Gly Phe Val His Ser Ala Phe Gln Ile Val Val
145 150 155 160

Tyr Ser Leu Pro Ile Cys Gly Pro Asn Val Ile Val His Phe Ser Cys
165 170 175

Asp Met His Pro Leu Leu Glu Leu Ala Cys Thr Asp Thr Tyr Phe Ile
180 185 190

Gly Leu Thr Val Val Val Asn Ser Gly Ala Ile Cys Met Val Ile Phe
195 200 205

Asn Leu Leu Leu Ile Ser Tyr Gly Val Ile Leu Ser Ser Leu Lys Thr
210 215 220

Tyr Ser Gln Glu Lys Arg Gly Lys Ala Leu Ser Thr Cys Ser Ser Gly
225 230 235 240

Ser Thr Val Val Val Leu Phe Phe Val Pro Cys Ile Phe Ile Tyr Val
245 250 255

Arg Pro Val Ser Asn Phe Pro Thr Asp Lys Phe Met Thr Val Phe Tyr
260 265 270

Thr Ile Ile Thr His Met Leu Ser Pro Leu Ile Tyr Thr Leu Arg Asn
275 280 285

Ser Glu Met Arg Asn Ala Ile Glu Lys Leu Leu Gly Lys Lys Leu Thr
290 295 300

Ile Phe Ile Ile Gly Gly Val Ser Val Leu Met
305 310 315

<210> 153

<211> 1044

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(1041)

<223>

<400> 153

atg ggt aac tgg act gca gcg gtg act gag ttt gtt ctg ctg ggg ttt	48
Met Gly Asn Trp Thr Ala Ala Val Thr Glu Phe Val Leu Leu Gly Phe	
1 5 10 15	
tcc ctg agc agg gag gtg gag ctg ctg ctc ctg gtg ctc ctg ctg ccc	96
Ser Leu Ser Arg Glu Val Glu Leu Leu Leu Val Leu Leu Leu Pro	
20 25 30	
acg ttc ctg ctg act ctt ctg ggg aac ctg ctc atc atc tcc act gtg	144
Thr Phe Leu Leu Thr Leu Leu Gly Asn Leu Leu Ile Ile Ser Thr Val	
35 40 45	
ctg tcc tgc tcc cgc ctc cac acc ccc atg tac ttc ttc ttg tgc aac	192
Leu Ser Cys Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Cys Asn	
50 55 60	
ctc tct atc ctg gac atc ctc ttc acc tca gtc atc tct cca aaa gtg	240
Leu Ser Ile Leu Asp Ile Leu Phe Thr Ser Val Ile Ser Pro Lys Val	
65 70 75 80	
ttg gcc aac tta gga tct agg gat aaa acc atc tcc ttt gcc gga tgt	288
Leu Ala Asn Leu Gly Ser Arg Asp Lys Thr Ile Ser Phe Ala Gly Cys	
85 90 95	
atc acc cag tgc tat ttc tac ttt ttc ttg ggc aca gtt gag ttc ctc	336
Ile Thr Gln Cys Tyr Phe Tyr Phe Phe Leu Gly Thr Val Glu Phe Leu	
100 105 110	
ctg ctg acg gtc atg tcc tat gac cgt tat gcc acc atc tgc tgc ccc	384
Leu Leu Thr Val Met Ser Tyr Asp Arg Tyr Ala Thr Ile Cys Cys Pro	
115 120 125	
ctg cgg tac acc acc atc atg aga cct tct gtc tgc att ggg acc gtt	432
Leu Arg Tyr Thr Thr Ile Met Arg Pro Ser Val Cys Ile Gly Thr Val	
130 135 140	
gta ttc tct tgg gtg gga ggc ttc ctg tct gtg ctc ttt cca acc atc	480
Val Phe Ser Trp Val Gly Gly Phe Leu Ser Val Leu Phe Pro Thr Ile	
145 150 155 160	
ctc atc tcc cag ctg ccc ttc tgt ggc tcc aat atc att aac cac ttc	528
Leu Ile Ser Gln Leu Pro Phe Cys Gly Ser Asn Ile Ile Asn His Phe	
165 170 175	
ttc tgt gac agt gga ccc ttg ctg gcc ctg gcc tgt gca gac acc act	576
Phe Cys Asp Ser Gly Pro Leu Leu Ala Leu Ala Cys Ala Asp Thr Thr	
180 185 190	
gcc atc gag ctg atg gat ttt atg ctt tct tcc atg gtc atc ctc tgc	624
Ala Ile Glu Leu Met Asp Phe Met Leu Ser Ser Met Val Ile Leu Cys	
195 200 205	

tgc ata gtc ctc gtg gcc tat tcc tat acg tac atc atc ttg acc ata Cys Ile Val Leu Val Ala Tyr Ser Tyr Thr Tyr Ile Ile Leu Thr Ile 210 215 220	672
gtg cgc att cct tct gca agt gga agg aag aag gcc ttt aat acc tgt Val Arg Ile Pro Ser Ala Ser Gly Arg Lys Lys Ala Phe Asn Thr Cys 225 230 235 240	720
gct tcc cac ctg acc ata gtc atc att cct agt ggc atc act gtg ttt Ala Ser His Leu Thr Ile Val Ile Ile Pro Ser Gly Ile Thr Val Phe 245 250 255	768
atc tat gtg act ccc tcc cag aaa gaa tat ctg gag atc aac aag atc Ile Tyr Val Thr Pro Ser Gln Lys Glu Tyr Leu Glu Ile Asn Lys Ile 260 265 270	816
cct ttg gtt ctg agc agt gtg gtg act cca ttc ctc aac ccc ttt ata Pro Leu Val Leu Ser Ser Val Val Thr Pro Phe Leu Asn Pro Phe Ile 275 280 285	864
tat act ctg agg aat gac aca gtg cag gga gtc ctc agg gat gtg tgg Tyr Thr Leu Arg Asn Asp Thr Val Gln Gly Val Leu Arg Asp Val Trp 290 295 300	912
gtc agg gtt cga gga gtt ttt gaa aag agg atg agg gca gtg ctg aga Val Arg Val Arg Gly Val Phe Glu Lys Arg Met Arg Ala Val Leu Arg 305 310 315 320	960
agc aga tta tcc tcc aac aaa gac cac caa gga agg gct tgc tct tct Ser Arg Leu Ser Ser Asn Lys Asp His Gln Gly Arg Ala Cys Ser Ser 325 330 335	1008
cca cca tgt gtc tat tct gta aag ctc cag tgt tag Pro Pro Cys Val Tyr Ser Val Lys Leu Gln Cys 340 345	1044

<210> 154

<211> 347

<212> PRT

<213> Homo Sapiens

<400> 154

Met	Gly	Asn	Trp	Thr	Ala	Ala	Val	Thr	Glu	Phe	Val	Leu	Leu	Gly	Phe
1				5					10					15	

Ser	Leu	Ser	Arg	Glu	Val	Glu	Leu	Leu	Leu	Leu	Val	Leu	Leu	Leu	Pro
			20					25					30		

Thr	Phe	Leu	Leu	Thr	Leu	Leu	Gly	Asn	Leu	Leu	Ile	Ile	Ser	Thr	Val
		35					40					45			

Leu	Ser	Cys	Ser	Arg	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Cys	Asn
		50				55					60				

Leu	Ser	Ile	Leu	Asp	Ile	Leu	Phe	Thr	Ser	Val	Ile	Ser	Pro	Lys	Val
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

65	70	75	80
Leu Ala Asn Leu Gly Ser Arg Asp Lys Thr Ile Ser Phe Ala Gly Cys	85	90	95
Ile Thr Gln Cys Tyr Phe Tyr Phe Phe Leu Gly Thr Val Glu Phe Leu	100	105	110
Leu Leu Thr Val Met Ser Tyr Asp Arg Tyr Ala Thr Ile Cys Cys Pro	115	120	125
Leu Arg Tyr Thr Thr Ile Met Arg Pro Ser Val Cys Ile Gly Thr Val	130	135	140
Val Phe Ser Trp Val Gly Gly Phe Leu Ser Val Leu Phe Pro Thr Ile	145	150	155
Leu Ile Ser Gln Leu Pro Phe Cys Gly Ser Asn Ile Ile Asn His Phe	165	170	175
Phe Cys Asp Ser Gly Pro Leu Leu Ala Leu Ala Cys Ala Asp Thr Thr	180	185	190
Ala Ile Glu Leu Met Asp Phe Met Leu Ser Ser Met Val Ile Leu Cys	195	200	205
Cys Ile Val Leu Val Ala Tyr Ser Tyr Thr Tyr Ile Ile Leu Thr Ile	210	215	220
Val Arg Ile Pro Ser Ala Ser Gly Arg Lys Lys Ala Phe Asn Thr Cys	225	230	235
Ala Ser His Leu Thr Ile Val Ile Ile Pro Ser Gly Ile Thr Val Phe	245	250	255
Ile Tyr Val Thr Pro Ser Gln Lys Glu Tyr Leu Glu Ile Asn Lys Ile	260	265	270
Pro Leu Val Leu Ser Ser Val Val Thr Pro Phe Leu Asn Pro Phe Ile	275	280	285
Tyr Thr Leu Arg Asn Asp Thr Val Gln Gly Val Leu Arg Asp Val Trp	290	295	300
Val Arg Val Arg Gly Val Phe Glu Lys Arg Met Arg Ala Val Leu Arg	305	310	315
Ser Arg Leu Ser Ser Asn Lys Asp His Gln Gly Arg Ala Cys Ser Ser	325	330	335

Pro Pro Cys Val Tyr Ser Val Lys Leu Gln Cys
 340 345

<210> 155

<211> 942

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (939)

<223>

<400> 155

atg gct ggg gaa aac cat act aca ctg cct gaa ttc ctc ctt ctg gga	48
Met Ala Gly Glu Asn His Thr Thr Leu Pro Glu Phe Leu Leu Leu Gly	
1 5 10 15	
ttc tct gac ctc aag gcc ctg cag ggc ccc ctg ttc tgg gtg gtg ctt	96
Phe Ser Asp Leu Lys Ala Leu Gln Gly Pro Leu Phe Trp Val Val Leu	
20 25 30	
ctg gtc tac ctg gtc acc ttg ctg ggt aac tcc ctg atc atc ctc ctc	144
Leu Val Tyr Leu Val Thr Leu Leu Gly Asn Ser Leu Ile Ile Leu Leu	
35 40 45	
aca cag gtc agc cct gcc ctg cac tcc ccc atg tac ttc ttc ctg cgc	192
Thr Gln Val Ser Pro Ala Leu His Ser Pro Met Tyr Phe Phe Leu Arg	
50 55 60	
caa ctc tca gtg gtg gag ctc ttc tac acc act gac atc gtg ccc agg	240
Gln Leu Ser Val Val Glu Leu Phe Tyr Thr Thr Asp Ile Val Pro Arg	
65 70 75 80	
acc ctg gcc aat ctg ggc tcc ccg cat ccc cag gcc atc tct ttc cag	288
Thr Leu Ala Asn Leu Gly Ser Pro His Pro Gln Ala Ile Ser Phe Gln	
85 90 95	
ggc tgt gca gcc cag atg tac gtc ttc att gtc ctg ggc atc tgc gag	336
Gly Cys Ala Ala Gln Met Tyr Val Phe Ile Val Leu Gly Ile Ser Glu	
100 105 110	
tgc tgc ctg ctc acg gcc atg gcc tat gac cga tat gtt gcc atc tgc	384
Cys Cys Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys	
115 120 125	
cag ccc cta cgc tat tcc acc ctc ttg agc cca cgg gcc tgc ttg gcc	432
Gln Pro Leu Arg Tyr Ser Thr Leu Leu Ser Pro Arg Ala Cys Leu Ala	
130 135 140	
atg gtg ggg tcc tcc tgg ctc aca ggc atc atc acg gcc acc acc cat	480
Met Val Gly Ser Ser Trp Leu Thr Gly Ile Ile Thr Ala Thr Thr His	
145 150 155 160	
gcc tcc ctc atc ttc tct cta cct ttt cgc agc cac ccg atc atc ccg	528
Ala Ser Leu Ile Phe Ser Leu Pro Phe Arg Ser His Pro Ile Ile Pro	

165										170					175					
cac	ttt	ctc	tgt	gac	atc	ctg	cca	gta	ctg	agg	ctg	gca	agt	gct	ggg	576				
His	Phe	Leu	Cys	Asp	Ile	Leu	Pro	Val	Leu	Arg	Leu	Ala	Ser	Ala	Gly					
			180					185					190							
aag	cac	agg	agc	gag	atc	tcc	gtg	atg	aca	gcc	acc	ata	gtc	ttc	att	624				
Lys	His	Arg	Ser	Glu	Ile	Ser	Val	Met	Thr	Ala	Thr	Ile	Val	Phe	Ile					
		195					200					205								
atg	atc	ccc	ttc	tct	ctg	att	gtc	acc	tct	tac	atc	cgc	atc	ctg	ggg	672				
Met	Ile	Pro	Phe	Ser	Leu	Ile	Val	Thr	Ser	Tyr	Ile	Arg	Ile	Leu	Gly					
	210					215					220									
gcc	atc	cta	gca	atg	gcc	tcc	acc	cag	agc	cgc	cgc	aag	gtc	ttc	tcc	720				
Ala	Ile	Leu	Ala	Met	Ala	Ser	Thr	Gln	Ser	Arg	Arg	Lys	Val	Phe	Ser					
225					230					235					240					
acc	tgc	tcc	tcc	cat	ctg	ctc	gtg	gtc	tct	ctc	ttc	ttt	gga	aca	gcc	768				
Thr	Cys	Ser	Ser	His	Leu	Leu	Val	Val	Ser	Leu	Phe	Phe	Gly	Thr	Ala					
				245				250						255						
agc	atc	acc	tac	atc	cgg	ccg	cag	gca	ggc	tcc	tct	gtt	acc	aca	gac	816				
Ser	Ile	Thr	Tyr	Ile	Arg	Pro	Gln	Ala	Gly	Ser	Ser	Val	Thr	Thr	Asp					
			260					265					270							
cgc	gtc	ctc	agt	ctc	ttc	tac	aca	gtc	atc	aca	ccc	atg	ctc	aac	ccc	864				
Arg	Val	Leu	Ser	Leu	Phe	Tyr	Thr	Val	Ile	Thr	Pro	Met	Leu	Asn	Pro					
		275					280					285								
atc	atc	tac	acc	ctt	cgg	aac	aag	gac	gtg	agg	agg	gcc	ctg	cga	cac	912				
Ile	Ile	Tyr	Thr	Leu	Arg	Asn	Lys	Asp	Val	Arg	Arg	Ala	Leu	Arg	His					
	290					295					300									
ttg	gtg	aag	agg	cag	cgc	ccc	tca	ccc	tga							942				
Leu	Val	Lys	Arg	Gln	Arg	Pro	Ser	Pro												
305				310																

<210> 156

<211> 313

<212> PRT

<213> Homo Sapiens

<400> 156

Met	Ala	Gly	Glu	Asn	His	Thr	Thr	Leu	Pro	Glu	Phe	Leu	Leu	Leu	Gly
1				5					10					15	

Phe	Ser	Asp	Leu	Lys	Ala	Leu	Gln	Gly	Pro	Leu	Phe	Trp	Val	Val	Leu
			20					25					30		

Leu	Val	Tyr	Leu	Val	Thr	Leu	Leu	Gly	Asn	Ser	Leu	Ile	Ile	Leu	Leu
		35					40					45			

Thr	Gln	Val	Ser	Pro	Ala	Leu	His	Ser	Pro	Met	Tyr	Phe	Phe	Leu	Arg
	50					55					60				

Gln Leu Ser Val Val Glu Leu Phe Tyr Thr Thr Asp Ile Val Pro Arg
65 70 75 80

Thr Leu Ala Asn Leu Gly Ser Pro His Pro Gln Ala Ile Ser Phe Gln
85 90 95

Gly Cys Ala Ala Gln Met Tyr Val Phe Ile Val Leu Gly Ile Ser Glu
100 105 110

Cys Cys Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys
115 120 125

Gln Pro Leu Arg Tyr Ser Thr Leu Leu Ser Pro Arg Ala Cys Leu Ala
130 135 140

Met Val Gly Ser Ser Trp Leu Thr Gly Ile Ile Thr Ala Thr Thr His
145 150 155 160

Ala Ser Leu Ile Phe Ser Leu Pro Phe Arg Ser His Pro Ile Ile Pro
165 170 175

His Phe Leu Cys Asp Ile Leu Pro Val Leu Arg Leu Ala Ser Ala Gly
180 185 190

Lys His Arg Ser Glu Ile Ser Val Met Thr Ala Thr Ile Val Phe Ile
195 200 205

Met Ile Pro Phe Ser Leu Ile Val Thr Ser Tyr Ile Arg Ile Leu Gly
210 215 220

Ala Ile Leu Ala Met Ala Ser Thr Gln Ser Arg Arg Lys Val Phe Ser
225 230 235 240

Thr Cys Ser Ser His Leu Leu Val Val Ser Leu Phe Phe Gly Thr Ala
245 250 255

Ser Ile Thr Tyr Ile Arg Pro Gln Ala Gly Ser Ser Val Thr Thr Asp
260 265 270

Arg Val Leu Ser Leu Phe Tyr Thr Val Ile Thr Pro Met Leu Asn Pro
275 280 285

Ile Ile Tyr Thr Leu Arg Asn Lys Asp Val Arg Arg Ala Leu Arg His
290 295 300

Leu Val Lys Arg Gln Arg Pro Ser Pro
305 310

<210> 157

<211> 990

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (987)

<223>

<400> 157

atg act ttg gtt tct ttt ttc tct ttc ctc tcc aag cca ttg ata atg	48
Met Thr Leu Val Ser Phe Phe Ser Phe Leu Ser Lys Pro Leu Ile Met	
1 5 10 15	
ctc ctt agc aat tca agc tgg agg cta tcc cag cct tct ttt ctc ctg	96
Leu Leu Ser Asn Ser Ser Trp Arg Leu Ser Gln Pro Ser Phe Leu Leu	
20 25 30	
gta ggg att cca ggt tta gag gaa agc cag cac tgg att gca ctg ccc	144
Val Gly Ile Pro Gly Leu Glu Glu Ser Gln His Trp Ile Ala Leu Pro	
35 40 45	
ctg ggc atc ctt tac ctc ctt gct tta gtg ggc aat gtt acc att ctc	192
Leu Gly Ile Leu Tyr Leu Leu Ala Leu Val Gly Asn Val Thr Ile Leu	
50 55 60	
ttc atc atc tgg atg gac cca tcc ttg cac caa tct atg tac ctc ttc	240
Phe Ile Ile Trp Met Asp Pro Ser Leu His Gln Ser Met Tyr Leu Phe	
65 70 75 80	
ctg tcc atg cta gct gcc atc gac ctg gtt ctg gcc tcc tcc act gca	288
Leu Ser Met Leu Ala Ala Ile Asp Leu Val Leu Ala Ser Ser Thr Ala	
85 90 95	
ccc aaa gcc ctt gca gtg ctc ctg gtt cat gcc cac gag att ggg tac	336
Pro Lys Ala Leu Ala Val Leu Leu Val His Ala His Glu Ile Gly Tyr	
100 105 110	
atc gtc tgc ctg atc cag atg ttc ttc atc cat gca ttc tcc tcc atg	384
Ile Val Cys Leu Ile Gln Met Phe Phe Ile His Ala Phe Ser Ser Met	
115 120 125	
gag tca ggg gta ctt gtg gcc atg gct ctg gat cgc tat gta gcc att	432
Glu Ser Gly Val Leu Val Ala Met Ala Leu Asp Arg Tyr Val Ala Ile	
130 135 140	
tgt cac ccc ttg cac cat tcc aca atc ctg cat cca ggg gtc ata ggg	480
Cys His Pro Leu His His Ser Thr Ile Leu His Pro Gly Val Ile Gly	
145 150 155 160	
cgc atc gga atg gtg gtg ctg gtg agg gga tta cta ctc ctt atc ccc	528
Arg Ile Gly Met Val Val Leu Val Arg Gly Leu Leu Leu Leu Ile Pro	
165 170 175	
ttc ccc att ttg ttg gga aca ctt atc ttc tgc caa gcc acc atc ata	576
Phe Pro Ile Leu Leu Gly Thr Leu Ile Phe Cys Gln Ala Thr Ile Ile	
180 185 190	
ggc cat gcc tat tgt gaa cat atg gct gtt gtg aaa ctt gcc tgc tca	624

Gly	His	Ala	Tyr	Cys	Glu	His	Met	Ala	Val	Val	Lys	Leu	Ala	Cys	Ser		
		195					200					205					
gaa	acc	aca	gtc	aat	cga	gct	tat	ggg	ctg	act	atg	gcc	ttg	ctt	gtg	672	
Glu	Thr	Thr	Val	Asn	Arg	Ala	Tyr	Gly	Leu	Thr	Met	Ala	Leu	Leu	Val		
		210				215					220						
att	ggg	ctg	gat	gtt	ctg	gcc	att	ggg	gtt	tcc	tat	gcc	cac	atc	ctc	720	
Ile	Gly	Leu	Asp	Val	Leu	Ala	Ile	Gly	Val	Ser	Tyr	Ala	His	Ile	Leu		
		225			230					235					240		
cag	gca	gtg	ctg	aag	gta	cca	ggg	agt	gag	gcc	cga	ctt	aag	gcg	ttt	768	
Gln	Ala	Val	Leu	Lys	Val	Pro	Gly	Ser	Glu	Ala	Arg	Leu	Lys	Ala	Phe		
				245					250					255			
agc	aca	tgt	ggc	tct	cat	att	tgt	gtc	atc	ctg	gtc	ttc	tat	gtc	cct	816	
Ser	Thr	Cys	Gly	Ser	His	Ile	Cys	Val	Ile	Leu	Val	Phe	Tyr	Val	Pro		
			260					265					270				
gga	att	ttc	tcc	ttc	ctc	act	cac	cgc	ttt	ggg	cat	cat	gta	ccc	cat	864	
Gly	Ile	Phe	Ser	Phe	Leu	Thr	His	Arg	Phe	Gly	His	His	Val	Pro	His		
		275					280					285					
cat	gtc	cat	gtt	ctt	ctg	gcc	aca	cgg	tat	ctc	ctc	atg	cca	cct	gcg	912	
His	Val	His	Val	Leu	Leu	Ala	Thr	Arg	Tyr	Leu	Leu	Met	Pro	Pro	Ala		
		290				295					300						
ctc	aat	cct	ctt	gtc	tat	gga	gtg	aag	act	cag	cag	atc	cgc	cag	cga	960	
Leu	Asn	Pro	Leu	Val	Tyr	Gly	Val	Lys	Thr	Gln	Gln	Ile	Arg	Gln	Arg		
		305			310					315				320			
gtg	ctc	aga	gtg	ttt	aca	caa	aag	gat	tga							990	
Val	Leu	Arg	Val	Phe	Thr	Gln	Lys	Asp									
				325													

<210> 158

<211> 329

<212> PRT

<213> Homo Sapiens

<400> 158

Met	Thr	Leu	Val	Ser	Phe	Phe	Ser	Phe	Leu	Ser	Lys	Pro	Leu	Ile	Met
1				5					10					15	

Leu	Leu	Ser	Asn	Ser	Ser	Trp	Arg	Leu	Ser	Gln	Pro	Ser	Phe	Leu	Leu
			20					25					30		

Val	Gly	Ile	Pro	Gly	Leu	Glu	Glu	Ser	Gln	His	Trp	Ile	Ala	Leu	Pro
		35					40					45			

Leu	Gly	Ile	Leu	Tyr	Leu	Leu	Ala	Leu	Val	Gly	Asn	Val	Thr	Ile	Leu
	50					55					60				

Phe	Ile	Ile	Trp	Met	Asp	Pro	Ser	Leu	His	Gln	Ser	Met	Tyr	Leu	Phe
65					70					75					80

Leu Ser Met Leu Ala Ala Ile Asp Leu Val Leu Ala Ser Ser Thr Ala
85 90 95

Pro Lys Ala Leu Ala Val Leu Leu Val His Ala His Glu Ile Gly Tyr
100 105 110

Ile Val Cys Leu Ile Gln Met Phe Phe Ile His Ala Phe Ser Ser Met
115 120 125

Glu Ser Gly Val Leu Val Ala Met Ala Leu Asp Arg Tyr Val Ala Ile
130 135 140

Cys His Pro Leu His His Ser Thr Ile Leu His Pro Gly Val Ile Gly
145 150 155 160

Arg Ile Gly Met Val Val Leu Val Arg Gly Leu Leu Leu Leu Ile Pro
165 170 175

Phe Pro Ile Leu Leu Gly Thr Leu Ile Phe Cys Gln Ala Thr Ile Ile
180 185 190

Gly His Ala Tyr Cys Glu His Met Ala Val Val Lys Leu Ala Cys Ser
195 200 205

Glu Thr Thr Val Asn Arg Ala Tyr Gly Leu Thr Met Ala Leu Leu Val
210 215 220

Ile Gly Leu Asp Val Leu Ala Ile Gly Val Ser Tyr Ala His Ile Leu
225 230 235 240

Gln Ala Val Leu Lys Val Pro Gly Ser Glu Ala Arg Leu Lys Ala Phe
245 250 255

Ser Thr Cys Gly Ser His Ile Cys Val Ile Leu Val Phe Tyr Val Pro
260 265 270

Gly Ile Phe Ser Phe Leu Thr His Arg Phe Gly His His Val Pro His
275 280 285

His Val His Val Leu Leu Ala Thr Arg Tyr Leu Leu Met Pro Pro Ala
290 295 300

Leu Asn Pro Leu Val Tyr Gly Val Lys Thr Gln Gln Ile Arg Gln Arg
305 310 315 320

Val Leu Arg Val Phe Thr Gln Lys Asp
325

<210> 159

<211> 960

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(957)

<223>

<400> 159

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Met Asn Leu Asp Ser Phe Phe Ser Phe Leu Leu Lys Ser Leu Ile Met	
1 5 10 15	
gca ctt agc aat tcc agc tgg agg cta ccc cag cct tct ttt ttc ctg	96
Ala Leu Ser Asn Ser Ser Trp Arg Leu Pro Gln Pro Ser Phe Phe Leu	
20 25 30	
gta gga att ccg ggt tta gag gaa agc cag cac tgg atc gca ctg ccc	144
Val Gly Ile Pro Gly Leu Glu Glu Ser Gln His Trp Ile Ala Leu Pro	
35 40 45	
ctg ggc atc ctt tac ctc ctt gct cta gtg ggc aat gtt acc att ctc	192
Leu Gly Ile Leu Tyr Leu Leu Ala Leu Val Gly Asn Val Thr Ile Leu	
50 55 60	
ttc atc atc tgg atg gac cca tcc ttg cac caa tct atg tac ctc ttc	240
Phe Ile Ile Trp Met Asp Pro Ser Leu His Gln Ser Met Tyr Leu Phe	
65 70 75 80	
ctg tcc atg cta gct gcc atc gac ctg gtt gtg gcc tcc tcc act gca	288
Leu Ser Met Leu Ala Ala Ile Asp Leu Val Val Ala Ser Ser Thr Ala	
85 90 95	
ccc aaa gcc ctt gca gtg ctc ctg gtt cgt gcc caa gag att ggt tac	336
Pro Lys Ala Leu Ala Val Leu Leu Val Arg Ala Gln Glu Ile Gly Tyr	
100 105 110	
act gtc tgc ctg atc cag atg ttc ttc acc cat gca ttc tcc tcc atg	384
Thr Val Cys Leu Ile Gln Met Phe Phe Thr His Ala Phe Ser Ser Met	
115 120 125	
gag tca ggg gta ctt gtg gcc atg gct ctg gat cgc tat gta gcc att	432
Glu Ser Gly Val Leu Val Ala Met Ala Leu Asp Arg Tyr Val Ala Ile	
130 135 140	
tgt cac ccc ttg cac cat tcc aca atc ctg cat cca ggg gtc ata ggg	480
Cys His Pro Leu His His Ser Thr Ile Leu His Pro Gly Val Ile Gly	
145 150 155 160	
cac atc gga atg gtg gtg ctg gtg cgg gga tta cta ctc ctc atc ccc	528
His Ile Gly Met Val Val Leu Val Arg Gly Leu Leu Leu Leu Ile Pro	
165 170 175	
ttc ctc att ctg ttg cga aaa ctt atc ttc tgc caa gcc acc atc ata	576
Phe Leu Ile Leu Leu Arg Lys Leu Ile Phe Cys Gln Ala Thr Ile Ile	
180 185 190	

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ggc cat gcc tat tgt gaa cat atg gct gtt gtg aaa ctt gcc tgc tca      624
Gly His Ala Tyr Cys Glu His Met Ala Val Val Lys Leu Ala Cys Ser
      195                      200                      205

gaa acc aca gtc aat cga gct tat ggg ctg act gtg gcc ttg ctt gtg      672
Glu Thr Thr Val Asn Arg Ala Tyr Gly Leu Thr Val Ala Leu Leu Val
      210                      215                      220

gtt ggg ctg gat gtc ctg gcc att ggt gtt tcc tat gcc cac att ctc      720
Val Gly Leu Asp Val Leu Ala Ile Gly Val Ser Tyr Ala His Ile Leu
      225                      230                      235                      240

cag gca gtg ctg aag gta cca gga aat gag gcc cga ctt aag gcc ttt      768
Gln Ala Val Leu Lys Val Pro Gly Asn Glu Ala Arg Leu Lys Ala Phe
      245                      250                      255

agc aca tgt ggc tct cat gtt tgt gtc atc ctg gtc ttc tat atc ccg      816
Ser Thr Cys Gly Ser His Val Cys Val Ile Leu Val Phe Tyr Ile Pro
      260                      265                      270

gga atg ttc tcc ttc ctc act cac cgc ttt ggt cat cat gta ccc cat      864
Gly Met Phe Ser Phe Leu Thr His Arg Phe Gly His His Val Pro His
      275                      280                      285

cac gtc cat gtt ctt ctg gcc ata ctg tat cgc ctt gtg cca cct gca      912
His Val His Val Leu Leu Ala Ile Leu Tyr Arg Leu Val Pro Pro Ala
      290                      295                      300

ctc aat cct ctt gtc tat agg gtg aag acc cag aag atc cac cag tga      960
Leu Asn Pro Leu Val Tyr Arg Val Lys Thr Gln Lys Ile His Gln
      305                      310                      315

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<210> 160

<211> 319

<212> PRT

<213> Homo Sapiens

<400> 160

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Met Asn Leu Asp Ser Phe Phe Ser Phe Leu Leu Lys Ser Leu Ile Met
1                      5                      10                      15

Ala Leu Ser Asn Ser Ser Trp Arg Leu Pro Gln Pro Ser Phe Phe Leu
      20                      25                      30

Val Gly Ile Pro Gly Leu Glu Glu Ser Gln His Trp Ile Ala Leu Pro
      35                      40                      45

Leu Gly Ile Leu Tyr Leu Leu Ala Leu Val Gly Asn Val Thr Ile Leu
      50                      55                      60

Phe Ile Ile Trp Met Asp Pro Ser Leu His Gln Ser Met Tyr Leu Phe
      65                      70                      75                      80

Leu Ser Met Leu Ala Ala Ile Asp Leu Val Val Ala Ser Ser Thr Ala
      85                      90                      95

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Pro Lys Ala Leu Ala Val Leu Leu Val Arg Ala Gln Glu Ile Gly Tyr
 100 105 110

Thr Val Cys Leu Ile Gln Met Phe Phe Thr His Ala Phe Ser Ser Met
 115 120 125

Glu Ser Gly Val Leu Val Ala Met Ala Leu Asp Arg Tyr Val Ala Ile
 130 135 140

Cys His Pro Leu His His Ser Thr Ile Leu His Pro Gly Val Ile Gly
 145 150 155 160

His Ile Gly Met Val Val Leu Val Arg Gly Leu Leu Leu Leu Ile Pro
 165 170 175

Phe Leu Ile Leu Leu Arg Lys Leu Ile Phe Cys Gln Ala Thr Ile Ile
 180 185 190

Gly His Ala Tyr Cys Glu His Met Ala Val Val Lys Leu Ala Cys Ser
 195 200 205

Glu Thr Thr Val Asn Arg Ala Tyr Gly Leu Thr Val Ala Leu Leu Val
 210 215 220

Val Gly Leu Asp Val Leu Ala Ile Gly Val Ser Tyr Ala His Ile Leu
 225 230 235 240

Gln Ala Val Leu Lys Val Pro Gly Asn Glu Ala Arg Leu Lys Ala Phe
 245 250 255

Ser Thr Cys Gly Ser His Val Cys Val Ile Leu Val Phe Tyr Ile Pro
 260 265 270

Gly Met Phe Ser Phe Leu Thr His Arg Phe Gly His His Val Pro His
 275 280 285

His Val His Val Leu Leu Ala Ile Leu Tyr Arg Leu Val Pro Pro Ala
 290 295 300

Leu Asn Pro Leu Val Tyr Arg Val Lys Thr Gln Lys Ile His Gln
 305 310 315

<210> 161

<211> 945

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(942)

<223>

<400> 161

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Met Ser Ala Ser Asn Ile Thr Leu Thr His Pro Thr Ala Phe Leu Leu	
1 5 10 15	
gtg ggg att cca ggc ctg gaa cac ctg cac atc tgg atc tcc atc cct	96
Val Gly Ile Pro Gly Leu Glu His Leu His Ile Trp Ile Ser Ile Pro	
20 25 30	
ttc tgc tta gca tat aca ctg gcc ctg ctt gga aac tgc act ctc ctt	144
Phe Cys Leu Ala Tyr Thr Leu Ala Leu Leu Gly Asn Cys Thr Leu Leu	
35 40 45	
ctc atc atc cag gct gat gca gcc ctc cat gaa ccc atg tac ctc ttt	192
Leu Ile Ile Gln Ala Asp Ala Ala Leu His Glu Pro Met Tyr Leu Phe	
50 55 60	
ctg gcc atg ttg gca gcc atc gac ctg gtc ctt tcc tcc tca gca ctg	240
Leu Ala Met Leu Ala Ala Ile Asp Leu Val Leu Ser Ser Ser Ala Leu	
65 70 75 80	
ccc aaa atg ctt gcc ata ttc tgg ttc agg gat cgg gag ata aac ttc	288
Pro Lys Met Leu Ala Ile Phe Trp Phe Arg Asp Arg Glu Ile Asn Phe	
85 90 95	
ttt gcc tgt ctg gcc cag atg ttc ttc ctt cac tcc ttc tcc atc atg	336
Phe Ala Cys Leu Ala Gln Met Phe Phe Leu His Ser Phe Ser Ile Met	
100 105 110	
gag tca gca gtg ctg ctg gcc atg gcc ttt gac cgc tat gtg gct atc	384
Glu Ser Ala Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile	
115 120 125	
tgc aag cca ctg cac tac acc aag gtc ctg act ggg tcc ctc atc acc	432
Cys Lys Pro Leu His Tyr Thr Lys Val Leu Thr Gly Ser Leu Ile Thr	
130 135 140	
aag att ggc atg gct gct gtg gcc cgg gct gtg aca cta atg act cca	480
Lys Ile Gly Met Ala Ala Val Ala Arg Ala Val Thr Leu Met Thr Pro	
145 150 155 160	
ctc ccc ttc ctg ctg aga tgt ttc cac tac tgc cga ggc cca gtg atc	528
Leu Pro Phe Leu Leu Arg Cys Phe His Tyr Cys Arg Gly Pro Val Ile	
165 170 175	
gct cac tgc tac tgt gaa cac atg gct gtg gtg agg ctg gcg tgt ggg	576
Ala His Cys Tyr Cys Glu His Met Ala Val Val Arg Leu Ala Cys Gly	
180 185 190	
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Asp Thr Ser Phe Asn Asn Ile Tyr Gly Ile Ala Val Ala Met Phe Ile	
195 200 205	
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Val Val Leu Asp Leu Leu Leu Val Ile Leu Ser Tyr Ile Phe Ile Leu	
210 215 220	

cag gca gtt cta ctg ctt gcc tct cag gag gcc cac tac aag gca ttt 720
 Gln Ala Val Leu Leu Leu Ala Ser Gln Glu Ala His Tyr Lys Ala Phe
 225 230 235 240
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 Gly Thr Cys Val Ser His Ile Gly Ala Ile Leu Ala Phe Tyr Thr Thr
 245 250 255
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 Val Val Ile Ser Ser Val Met His Arg Val Ala Arg His Ala Ala Pro
 260 265 270
 cat gtc cac atc ctc ctt gcc aat ttc tat ctg ctc ttc cca ccc atg 864
 His Val His Ile Leu Leu Ala Asn Phe Tyr Leu Leu Phe Pro Pro Met
 275 280 285
 gtc aat ccc ata atc tat ggt gtc aag acc aag caa atc cgt gag agc 912
 Val Asn Pro Ile Ile Tyr Gly Val Lys Thr Lys Gln Ile Arg Glu Ser
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Phe Cys Leu Ala Tyr Thr Leu Ala Leu Leu Gly Asn Cys Thr Leu Leu
 35 40 45

Leu Ile Ile Gln Ala Asp Ala Ala Leu His Glu Pro Met Tyr Leu Phe
 50 55 60

Leu Ala Met Leu Ala Ala Ile Asp Leu Val Leu Ser Ser Ser Ala Leu
 65 70 75 80

Pro Lys Met Leu Ala Ile Phe Trp Phe Arg Asp Arg Glu Ile Asn Phe
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Phe Ala Cys Leu Ala Gln Met Phe Phe Leu His Ser Phe Ser Ile Met
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Glu Ser Ala Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile

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115              120              125

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Lys Ile Gly Met Ala Ala Val Ala Arg Ala Val Thr Leu Met Thr Pro
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Leu Pro Phe Leu Leu Arg Cys Phe His Tyr Cys Arg Gly Pro Val Ile
165              170              175

Ala His Cys Tyr Cys Glu His Met Ala Val Val Arg Leu Ala Cys Gly
180              185              190

Asp Thr Ser Phe Asn Asn Ile Tyr Gly Ile Ala Val Ala Met Phe Ile
195              200              205

Val Val Leu Asp Leu Leu Leu Val Ile Leu Ser Tyr Ile Phe Ile Leu
210              215              220

Gln Ala Val Leu Leu Leu Ala Ser Gln Glu Ala His Tyr Lys Ala Phe
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Gly Thr Cys Val Ser His Ile Gly Ala Ile Leu Ala Phe Tyr Thr Thr
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Val Val Ile Ser Ser Val Met His Arg Val Ala Arg His Ala Ala Pro
260              265              270

His Val His Ile Leu Leu Ala Asn Phe Tyr Leu Leu Phe Pro Pro Met
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Val Asn Pro Ile Ile Tyr Gly Val Lys Thr Lys Gln Ile Arg Glu Ser
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DEMANDES OU BREVETS VOLUMINEUX

**LA PRÉSENTE PARTIE DE CETTE DEMANDE OU CE BREVETS
COMPREND PLUS D'UN TOME.**

CECI EST LE TOME __1__ DE __2__

NOTE: Pour les tomes additionels, veuillez contacter le Bureau Canadien des Brevets.

JUMBO APPLICATIONS / PATENTS

**THIS SECTION OF THE APPLICATION / PATENT CONTAINS MORE
THAN ONE VOLUME.**

THIS IS VOLUME __1__ OF __2__

NOTE: For additional volumes please contact the Canadian Patent Office.

CLAIMS

1. Pheromone G-protein coupled receptor comprising an amino acid sequence which has a sequence identity higher than 95% with SEQ ID NO. 2 and having the receptor activity of the Pheromone G coupled receptor defined by SEQ ID NO.2, wherein the active site(s) necessary for the binding of a ligand able to interact with said receptor is maintained.
2. G-protein coupled receptor according to claim 1 comprising the amino acid sequence SEQ ID NO. 2 or a portion thereof having the receptor activity of the Pheromone G coupled receptor defined by SEQ ID NO.2 polypeptide, wherein the active site(s) necessary for the binding of a ligand able to interact with said receptor is maintained.
3. Polynucleotide encoding the G-protein coupled receptor according to any one of claims 1 or 2.
4. Vector comprising the polynucleotide according to the claim 3.
5. Cell transformed by the vector according to the claim 4.
6. Method of screening for agonists to the receptor according to any one of claims 1-2, said method comprising :
- contacting the cell transformed with the vector according to the claim 5, a cell extract or a membrane fraction from said cell, with a molecule under conditions permitting binding of said molecule to said receptor,
 - detecting an increase in receptor activity in the presence of said molecule working as an agonist, to said receptor, and
 - recovering and determining whether said molecule is able to work as an agonist to said receptor.
7. Method of screening for antagonists or inhibitors to the receptor according to any one of claims 1-2, said method comprising :
- contacting the cell transformed with the vector according to the claim 5, a cell extract or a membrane fraction from said cell, with a molecule and a known receptor agonist under conditions permitting binding of said molecule and said agonist to said receptor,
 - detecting a decrease of receptor activity in the presence of said molecule working as an antagonist or inhibitor to said receptor, and
 - recovering and determining whether said molecule is able to work as an antagonist or inhibitor to said receptor.

8. A composition comprising a pharmaceutical carrier and the receptor according to claim 1 or 2, the polynucleotide encoding said receptor according to claim 3, the vector according to claim 4 or the cell according to claim 5.

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