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(54) Title: NUCLEIC ACIDS, PROTEINS, AND ANTIBODIES

(57) Abstract: The present invention relates to novel proteins. More specifically, isolated nucleic acid molecules are provided encoding novel polypeptides. Novel polypeptides and antibodies that bind to these polypeptides are provided. Also provided are vectors, host cells, and recombinant and synthetic methods for producing human polynucleotides and/or polypeptides, and antibodies. The invention further relates to diagnostic and therapeutic methods useful for diagnosing, treating, preventing and/or prognosing disorders related to these novel polypeptides. The invention further relates to screening methods for identifying agonists and antagonists of polynucleotides and polypeptides of the invention. The present invention further relates to methods and/or compositions for inhibiting or enhancing the production and function of the polypeptides of the present invention.

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INTERNATIONAL SEARCH REPORT

International application No.
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A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) :CO7H 19/00; C12P 21/06; CO7K 1/00

US CL : 536/22.1; 435/69.1; 530/350

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 536/22.1; 435/69.1; 530/350

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

BIOSIS, MEDLINE, EMBASE, GENEBANK, CAPLUS, LIFESCI
search terms: enzymes, polynucleotides, epitopes, polypeptides, binding factors

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,972,660 A (HILLMAN et al) 26 October 1999, entire document, especially col. 1, lines 55-67 and col. 2, lines 1-55.	1-16 and 21
A	US 5,925,521 A (BANDMAN et al) 20 July 1999, entire document.	1-16 and 21
A	US 5,948,641 A (LAL et al) 07 September 1999, entire document.	1-16 and 21

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

*	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E"	earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

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Form PCT/ISA/210 (second sheet) (July 1998) ★

BOX II. OBSERVATIONS WHERE UNITY OF INVENTION WAS LACKING
This ISA found multiple inventions as follows:

This application contains the following inventions or groups of inventions which are not so linked as to form a single inventive concept under PCT Rule 13.1. In order for all inventions to be searched, the appropriate additional search fees must be paid.

Groups 1-641, claims 1-16 and 21, all in part, drawn to an isolated nucleic acid of SEQ ID NO. X, or a polnucleotide encoding a polypeptide of SEQ ID NO. Y, or a polynucleotide of the cDNA sequence contained in clone ID NO. Z, wherein X, Y and Z are values that correlate to those listed in Table 1A and expression vector, host cells.

If Group 1 is elected, this correlates to gene 1, wherein X is SEQ ID NO. 11, Y is SEQ ID NO. 911 and Z is Clone ID No. HHMMC14.
If Group 2 is elected , this correlates to gene 2, wherein X is SEQ ID NO. 12, Y is SEQ ID NO. 912 and Z is Clone ID NO. HSLEQ79.

Groups 642-1282, claims 17 and 24 all in part, drawn to a method for preventing, treating or ameliorating a medical condition comprising an isolated nucleic acid of SEQ ID NO. X, or a polynucleotide encoding a polypeptide of SEQ ID NO.Y, or a polynucleotide of the cDNA sequence contained in clone ID NO. Z, wherein X, Y and Z are values that correlate to those listed in Table 1A.
If group 642 is elected, this this correlates to gene 1, wherein X is SEQ ID NO. 11, Y is SEQ ID NO. 911 and Z is Clone ID NO. HHMMC14.
If Group 643 is elected , this correlates to gene 2, wherein X is SEQ ID NO. 12, Y is SEQ ID NO. 799 and Z is Clone ID NO. HSLEQ79.

Groups 1283-1923, claims 18-19 all in part, drawn to a method for diagnosing a pathological condition or susceptibility to a pathological condition comprising a polypeptide fragment of SEQ ID NO. Y or the encoded sequence contained in cDNA clone ID NO. Z, wherein Y and Z are values that correlate to those listed in Table 1A.
If Group 1283 is elected, this correlates to gene 1, wherein Y is SEQ ID NO. 911 and Z is clone ID NO. HHMMC14.
If Group 1284 is elected, this correlates to gene 2, wherein Y is SEQ ID NO. 912 and Z is clone ID NO. HSLEQ79.

Groups 1924-2564, claims 20 and 23 all in part, drawn to a method of identifying a binding partner to the polypetide of SEQ ID NO. Y or the encoded sequence contained in cDNA clone ID NO. Z, wherein Y and Z are the values that correlate to those listed in Table 1A.
If Group 1924 is elected, this correlates to gene 1, wherein Y is SEQ ID NO. 911 and Z is clone ID No. HHMMC14.
If Group 1925 is elected, this correlates to gene 2, wherein Y is SEQ ID NO. 912 and Z is clone ID NO. HSLEQ79.

Groups 2565-3105, claim(s) 22 all in part, drawn to a method of identifying an activity in a biological assay, comprising expression of SEQ ID NO. X, wherein X is the value that correlates to those listed in Table 1A.
If group 2565 is elected, this this correlates to gene 1, wherein X is SEQ ID NO. 11;
If Group 2566 is elected , this correlates to gene 2, wherein X is SEQ ID NO. 12.

The inventions listed as Groups 1-3105 do not relate to a single inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The polynucleotides and polypeptides of each of the inventions 1-3105 are not linked to each other because each polypeptide can only be made from the corresponding polynucleotide and can not be substituted with other polynucleotides. Additionally, the claimed methods of inventions in groups 642-3105 for prevention, treatment, diagnosis, identifying binding partners and biological activity, provide different products and different results which do not coexist and do not share the same technical feature.