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[Continued on next page]

(54) Title: NOVEL PROTEINS AND NUCLEIC ACIDS ENCODING SAME

(57) Abstract: The present invention provides novel isolated polynucleotides and small molecule target polypeptides encoded by the polynucleotides. Antibodies that immunospecifically bind to a novel small molecule target polypeptide or any derivative, variant, mutant or fragment of that polypeptide, polynucleotide or antibody are disclosed, as are methods in which the small molecule target polypeptide, polynucleotide and antibody are utilized in the detection and treatment of a broad range of pathological states. More specifically, the present invention discloses methods of using recombinantly expressed and/or endogenously expressed proteins in various screening procedures for the purpose of identifying therapeutic antibodies and therapeutic small molecules associated with diseases.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/17443

A. CLASSIFICATION OF SUBJECT MATTER		
IPC(7) : C12N 9/00, 1/20, 5/00, 15/00; C12P 21/04; C12Q 1/68, 1/00; C07K 21/04		
US CL : 435/183, 252.3, 320.1, 410, 440, 69.1, 71.1, 6, 4; 536/23.2		
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. : 435/183, 252.3, 320.1, 410, 440, 69.1, 71.1, 6, 4; 536/23.2		
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) uniprot, pir, geneseq, us patents database		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	VIGETTI. D. AF278712. NCBI database. 2001 (80% identity)	1-19
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* Special categories of cited documents:		
"A"	document defining the general state of the art which is not considered to be of particular relevance	"T"
"E"	earlier application or patent published on or after the international filing date	"X"
"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)	"Y"
"O"	document referring to an oral disclosure, use, exhibition or other means	"Z"
"P"	document published prior to the international filing date but later than the priority date claimed	"&"
Date of the actual completion of the international search		Date of mailing of the international search report
04 December 2004 (04.12.2004)		12 SEP 2005
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230		Authorized officer Ponnathappu Achutaraman Telephone No. 571-272-1600

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/17443

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claim Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claim Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claim Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
Please See Continuation Sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
 2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
 3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

 4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 1-19 (drawn to SEQ ID NO:2)
- Remark on Protest**
- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

BOX II. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

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

Groups I-CXXX, claim(s) 1-19, drawn to a polypeptide comprising an amino acid sequence selected from the group consisting of SEQ ID NO:2-258 and SEQ ID NO:539 (even) and methods of using said polypeptide. The groups correspond to the SEQ ID numbers.

Groups CXXXI-CCLX, claim(s) 20-28 and 32-45, drawn to DNA encoding the polypeptide of Groups I-LXXXVII and methods of using said DNA.

Groups CCLXI-CCCXC, claim(s) 29-31, drawn to antibodies against the polypeptide of Groups I-LXXXVII.

The inventions listed as Groups I- CCCXC do not relate to a single general 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 technical feature linking Groups I- CCCXC L appears to be that they all relate to a polypeptide comprising an amino acid sequence selected from the group consisting of SEQ ID NO:2-258 (even) and SEQ ID NO:539.

However, a special technical feature between the polypeptide, DNA and antibody groups is lacking because they are independent compounds having different structure and function.

Further, the polypeptides of Groups I-CXXX do not share a special technical feature because the polypeptides having different structure and function. Similarly, the DNA of Groups CXXXI-CCLX do not share a special technical feature because they have different structures and encode polypeptides having different structure and function. Similarly, the antibodies of Groups CCLXI- CCCXC do not share a special technical feature because they have different structure and function.

Therefore, the technical feature linking the inventions of Groups I- CCCXC does not constitute a special technical feature as defined by PCT Rule 13.2.

The special technical feature of Groups I-CXXX is a polypeptide comprising an amino acid sequence selected from the group consisting of SEQ ID NO:2-258 and SEQ ID NO:539 (even) and methods of using said polypeptide. The groups correspond to the SEQ ID numbers.

The special technical feature of Groups CXXXI-CCLX is a DNA encoding the polypeptide of Groups I-LXXXVII and methods of using said DNA.

The special technical feature of Groups CCLXI- CCCXC is an antibody against the polypeptide of Groups I-LXXXVII.