

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
25 May 2001 (25.05.2001)

PCT

(10) International Publication Number  
WO 01/36432 A3

- (51) International Patent Classification<sup>7</sup>: C12N 15/11, C12Q 1/68, C12N 15/00
- (74) Agents: HOOVER, Kenley, K. et al.; c/o Human Genome Sciences, Inc., 9410 Key West Avenue, Rockville, MD 20850 (US).
- (21) International Application Number: PCT/US00/31162
- (22) International Filing Date: 15 November 2000 (15.11.2000)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/166,415 19 November 1999 (19.11.1999) US  
60/215,136 30 June 2000 (30.06.2000) US
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- (71) Applicant (*for all designated States except US*): HUMAN GENOME SCIENCES, INC. [US/US]; 9410 Key West Avenue, Rockville, MD 20850 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): RUBEN, Steven, M. [US/US]; 18528 Heritage Hills Drive, Olney, MD 20832 (US). KOMATSOULIS, George, A. [US/US]; 9518 Garwood Steet, Silver Spring, MD 20901 (US). BAKER, Kevin, P. [US/US]; 14006 Indian Run Drive, Darnestown, MD 20878 (US). YOUNG, Paul, E. [US/US]; 122 Beckwith Street, Gaithersburg, MD 20878 (US).
- Published:  
— with international search report
- (88) Date of publication of the international search report: 10 May 2002
- 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.*



WO 01/36432 A3

(54) Title: 18 HUMAN SECRETED PROTEINS

(57) Abstract: The present invention relates to novel human secreted proteins and isolated nucleic acids containing the coding regions of the genes encoding such proteins. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human secreted proteins. The invention further relates to diagnostic and therapeutic methods useful for diagnosing and treating diseases, disorders, and/or conditions related to these novel human secreted proteins.

INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US00/31162

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C12N 15/11; C12Q 1/68; C12N 15/00  
US CL : 536/23.1; 435/6, 435/69.1

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. : 536/23.1; 435/6, 435/69.1

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

EST; SPTREMBL\_15; SWISSPROT\_39; PIR\_66

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

STN; WEST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 99/57261 A2 (HOECHST MARION ROUSSEL LTD.) 11 NOVEMBER 1999 (11/11/99). See entire document.	1-10, 14, 15, 21
Y	WO 99/01550 A1 (DANA-FARBER CANCER INSTITUTE) 14 JANUARY 1999 (14/01/99). See entire document.	1-10, 14, 15, 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	

Date of the actual completion of the international search

10 APRIL 2001

Date of mailing of the international search report

06 JUN 2001

Name and mailing address of the ISA/US  
Commissioner of Patents and Trademarks  
Box PCT  
Washington, D.C. 20231

Authorized officer

HOPE ROBINSON

Facsimile No. (703) 305-3230

Telephone No. (703) 308-0196

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US00/31162**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.  Claims Nos. :  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims 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.  Claims 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 Extra 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. :  
**1-10,14,15 AND 21**

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 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 1-41, claim(s) 1-10, 14, 15 and 21, all in part, drawn to an isolated nucleic acid of SEQ ID NO X or a peptide of SEQ ID NO Y, wherein X and Y are values that correlate to those listed in Table 1, and correspond to one of the cDNA Clone IDs, respectively. For example,

If group 1 is elected, this correlates to Gene No 1, cDNA clone ID HDPTM61 of Table 1, wherein X is 11 and Y is 53.

If group 2 is elected, this correlates to Gene No 1, cDNA clone ID HDPTM61, wherein X is 29 and Y is 71.

Groups 42-82, claim(s) 11, 12, 16 and 23, all in part, each group directed to a peptide of SEQ ID NO Y, wherein Y correlates to one of those listed in Table 1, and corresponds to one of the cDNA Clone IDs, respectively. For examples,

If group 42 is elected, this correlates to Gene No 1, cDNA clone ID HDPTM61 of Table 1, wherein Y is 53.

If group 43 is elected, this correlates to Gene No 1, cDNA clone ID HDPTM61, wherein Y is 71.

Groups 83-123, claim 13, in part, drawn to an isolated antibody which binds to a protein with SEQ ID NO Y, wherein Y correlates to one of those listed in Table 1, and corresponds to one of the cDNA Clone IDs, respectively. For examples,

If group 123 is elected, this correlates to Gene No 1, cDNA clone ID HDPTM61 of Table 1, wherein Y is 53.

If group 124 is elected, this correlates to Gene No 1, cDNA clone ID HDPTM61, wherein Y is 71.

Groups 124-164, claim 17, in part, drawn to a method for preventing, treating or ameliorating an undefined medical condition by administering a polypeptide of SEQ ID NO Y, wherein Y correlates to one of those listed in Table 1, and corresponds to one of the cDNA Clone IDs, respectively. For examples,

If group 124 is elected, this correlates to Gene No 1, cDNA clone ID HDPTM61 of Table 1, wherein Y is 53.

If group 125 is elected, this correlates to Gene No 1, cDNA clone ID HDPTM61, wherein Y is 71.

Groups 165-205, claims 18 and 19, in part, drawn to a method of diagnosis of an undefined pathological condition by determining the presence or absence of a mutation in a polynucleotide of SEQ ID NO X, wherein X correlates to one of those listed in Table 1, and corresponds to one of the cDNA Clone IDs, respectively. For examples,

If group 165 is elected, this correlates to Gene No 1, cDNA clone ID HDPTM61 of Table 1, wherein X is 11.

If group 166 is elected, this correlates to Gene No 1, cDNA clone ID HDPTM61, wherein X is 29.

Groups 206-246, claim 20, in part, drawn to a method of identifying a binding partner to a polypeptide defined by SEQ ID NO Y, wherein Y correlates to one of those listed in Table 1, and corresponds to one of the cDNA Clone IDs, respectively. For examples,

If group 206 is elected, this correlates to Gene No 1, cDNA clone ID HDPTM61 of Table 1, wherein Y is 53.

If group 207 is elected, this correlates to Gene No 1, cDNA clone ID HDPTM61, wherein Y is 71.

Group 247-287, claim 22, in part, drawn to a method of identifying an activity in a biological assay by identification of the protein in the supernatant wherein the cell expresses a polypeptide encoded by SEQ ID NO X, wherein X correlates to one of those listed in Table 1, and corresponds to one of the cDNA Clone IDs, respectively. For examples,

If group 247 is elected, this correlates to Gene No 1, cDNA clone ID HDPTM61 of Table 1, wherein X is 11.

If group 248 is elected, this correlates to Gene No 1, cDNA clone ID HDPTM61, wherein X is 29.

The inventions listed as Groups 1-287 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 invention are unrelated, each to each other. Where, for example, claim 1, items (e) through (f) do not require a polynucleotide of any degree of specificity to a sequence, it is apparent that Takeyuki (WO 99/57261, 1999) discloses a DNA encoding a polypeptide wherein said DNA renders claim 1, among the other, not novel. Thus the technical feature of the polynucleotide sequence is not special and the groups are not so linked under PCT Rule 13.1. Additionally the claimed methods produce different products and/or different results which are not coextensive and which do not share the same technical feature.