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CA 92130-2332 (US).(81) Designated States (national): AE, AG, AL, AM, AT, AU,
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GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
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[Continued on next page]

(54) Title: 14087, A SERINE PROTEASE MOLECULE AND USES THEREFOR

ACAGCTATGACATGATTACGAATTAATACGACTCNCATAGGGAAATTTGGCCCTCGAGGCCAAGAATTCGGCACGAGG SEQ ID NO:1

GGAAAGGTATAGTAACATTAGGAGGTTCCAGACAAACCTCAGACACTTACTCCCTGAGCTAAGGGGGAAGAGCTGGA

M K Y V F Y L G V L A G T F F F A D 18 SEQ ID NO:2

TCACC ATG AAA TAT GTC TTC TAT TTG GGT GTC CTC GCT GGG ACA TTT TTC TTT GCT GAC 54

S V Q K E D P A E Y L V Y L K S H F N 38

TCA TCT GTT CAG AAA GAA GAC CCT GCT CCC TAT TTG GTG TAC CTC AAG TCT CAC TTC AAC 114

P C V G V L I K P S W V L A P A H C Y L 58

CCC TGT GTG GGC GTC CTC ATC AAA CCC AGC TGG GTG CTG GCC CCA GCT CAC TGC TAT TTA 174

P N L K V M L G N F K S R V R D G T E Q 72

CCA AAT CTG AAA GTG ATG CTG GGA AAT TTC AAG AGC AGA GTC AGA GAC GGT ACT GAA CAG 234

T I N P I O I V R Y W N Y S H S A P Q D 98

ACA ATT AAC CCC ATT CAG ATC GTC CGC TAC TGG AAC TAC AGT CAT AGC GCC CCA CAG GAT 294

D L M L I K L A K P A M L H P K V Q P L 118

GAC CTC ATG CTC ATC AAG CTG GCT AAG CCT GCC ATG CTC CAT CCC AAA GTC CAG CCC CTT 354

P L A T T N V R P G T V C L L S G L D W 138

CCC CTC GCC ACC ACC AAT GTC AGG CCA GGC ACT GTC TGT CTA CTC TCA GGT TTG GAC TGG 414

S Q E N S G R H P D L R Q N L E A P V M 158

AGC CAA GAA AAC AGT GGC CGA CAC CCT GAC TTG CGG CAG AAC CTG GAG GCC CCC GTG ATG 474

S D R E C Q K T E A Q G K S H R N S L C V 178

TCT GAT CGA GAA TGC CAA AAA ACA CAA GGA AAA AGC CAC AGG AAT TCC TTA TGT GTG 534

K F V K V F S R I F G E V A V A T V I C 198

AAA TTT GTG AAA GTA TTC AGC CGA ATT TTT GGG GAG GTG GCC GTT GCT ACT GTC ATC TGC 594

K D K L Q G I E V G H F M G G D V G I Y 218

AAA GAC AAG CTC CAG GGA ATC GAG GTG GGG CAC TTC ATG GGA GGG GAC GTC GGC ATC TAC 654

T N V Y K Y V S W I E N T A K D K * 236

ACC AAT GTT TAC AAA TAT GTA TCC TGG ATT GAG AAC ACT GCT AAG GAC AAG TGA 708

GACCTACTCTCTCCCTCTGCACTTCCACTGGCTCTGCCATGGACTATACAGCAGATAATTTCCCTCTATTCAAAATAA

AATCTCCAATGAAATTTGGGAATGTAGCATACTAGTAAAAAATAAAAAAAAAAAAAAAAAAANTTGGCGGCCGCAA

GCTTATCCCTTTAGKAGGGTTAATTTTWA

(57) Abstract: The invention provides isolated nucleic acids molecules, designated 14087 nucleic acid molecules, which encode novel serine protease family members. The invention also provides antisense nucleic acid molecules, recombinant expression vectors containing 14087 nucleic acid molecules, host cells into which the expression vectors have been introduced, and nonhuman transgenic animals in which a 14087 gene has been introduced or disrupted. The invention still further provides isolated 14087 gene has been introduced or disrupted. The invention still further provides isolated 14087 proteins, fusion proteins, antigenic peptides and anti-14087 antibodies. Diagnostic methods utilizing compositions of the invention are also provided.



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

Inter. Application No

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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/57 C12N9/64 C07K16/40 C12Q1/68 G01N33/50
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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)

IPC 7 C12N C07K C12Q G01N

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 practical, search terms used)

WPI Data, PAJ, CAB Data, SEQUENCE SEARCH, BIOSIS, EPO-Internal, GENSEQ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE EMBL-EBI [Online] European Information Institute, Hinxton, UK; 4 March 2000 (2000-03-04) "te52d10.x1 Soares NFL T GBC S1 Homo sapiens cDNA clone IMAGE:2090323 3" Database accession no. AI805861 XP002202628 abstract --- -/--	1-8



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"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)

"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

"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

"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

"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.

"&" document member of the same patent family

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Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/23184

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
L	DATABASE GENSEQ [Online] NCBI, Washington, US; 22 October 2001 (2001-10-22) Database accession no. AAI60380, AAI58594, AAM41224 and AAM39438 XP002202629 * for information: accession nos. correspond to W00153312 *	
E	abstract -& WO 01 53312 A (HYSEQ, INC.) 26 July 2001 (2001-07-26) page 218 page 255 page 283 SEQ ID Nos. 797, 2583, 4369 and 6115 claims 1-28	1-23
L	--- DATABASE GENSEQ [Online] NCBI, Washington, US; 21 February 2002 (2002-02-21) Database accession no. ABA04594, ABA04595, ABA04647, AAM47674, AAM47664/5 XP002202630 * for information: accession no. correspond to W00181578 *	
E	claims 1-52; table 37 -& WO 01 81578 A (CURAGEN CORPORATION) 1 November 2001 (2001-11-01) SEQ ID Nos. 11,12, 13, 14 , 106 and 107; the whole document	1-23
L	--- DATABASE GENSEQ [Online] NCBI, Washington, US; 18 December 2001 (2001-12-18) Database accession no. AAS12970 and AAU07697 XP002202631 * for information: accession no. correspond to W00166771 *	
E	abstract -& WO 01 66771 A (ZYMOGENETICS, INC.) 13 September 2001 (2001-09-13) SEQ ID Nos. 1 and 2 claims 1-20	1-23
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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/23184

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
L	DATABASE GENSEQ [Online] NCBI, Washington, US; 18 December 2001 (2001-12-18) Database accession no. AAS44567 and AAU27666 XP002202632 * for information: accession nos. correspond to W00166748 * abstract	
E	-& WO 01 66748 A (ZYMOGENETICS, INC.) 13 September 2001 (2001-09-13) SEQ ID Nos. 105 and 106 claims 1-21	1-23
L	--- DATABASE GENSEQ [Online] NCBI, Washington, US; 13 February 2002 (2002-02-13) Database accession no. ABK31786 XP002202633 * for information: accession no. correspond to W00200860 * abstract	
E	-& WO 02 00860 A (SUGEN INC.) 3 January 2002 (2002-01-03) SEQ ID Nos. 43 and 102; the whole document	1-23
L	--- DATABASE GENSEQ [Online] NCBI, Washington, US; 9 April 2002 (2002-04-09) Database accession no. ABK12889 XP002202634 * for information: accession no. correspond to W00198468 * abstract	
E	-& WO 01 98468 A (INCYTE GENOMICS, INC.) 27 December 2001 (2001-12-27) SEQ ID Nos. 6 and 27 claims 1-1-86	1-23
L	--- DATABASE GENSEQ [Online] NCBI, Washington, US; 23 April 2002 (2002-04-23) Database accession no. ABK30293 XP002202635 * for information: accession no. correspond to US6331427 SEQ ID NO. 63 * abstract	
E	-& US 6 331 427 B (ROBISON) 18 December 2001 (2001-12-18) the whole document	1-23

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 01/23184

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

This International Search 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:
see FURTHER INFORMATION sheet PCT/ISA/210
2. ☒ Claims Nos.: (10,18-20)-partially
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:
see FURTHER INFORMATION sheet PCT/ISA/210
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:

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.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.1

Although claims (10,18-21 and 23)-partially are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
Although claim 22 is directed to a diagnostic method practised on the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

Continuation of Box I.2

Claims Nos.: (10,18-20)-partially

Present claim 10 and 18-21 relate to a method of modulating the activity of the 14087-polypeptide or an 16836-expressing cell, respectively a method of treating or preventing a disorder by using an agent that modulates the activity or expression of said 14087-polypeptide without giving a true technical characterization. Moreover no such compounds are defined in the application. In consequence, the scope of said claims is ambiguous and vague, and their subject-matter is not sufficiently disclosed and supported (Art. 5 and 6 PCT). No search can be carried out for such purely speculative claims whose wording is, in fact, a mere recitation of the results to be achieved.
Consequently, the search has been carried out for those parts of the claims which appear to be clear, supported and disclosed, namely those parts relating to antibodies, antisense molecules, ribozymes, polypeptides and nucleic acids, the structure of which can be directly derived from SEQ ID Nos. 1-3.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT
Information on patent family members

International Application No

PCT/US 01/23184

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
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