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— *with international search report*

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[Continued on next page]

(54) Title: SECRETED POLYPEPTIDE AND THEIR USE IN THE TREATMENT OF BONE DISORDERS

MRTPGPLPVLLLLLAGAPAARPTPPTCYSRMRALSQEITRDFNLLQVSEPSEPCVRYLP
RLYLDIHNYCVLDKLRDFVASPPCWKVAQVDSLKDKARKLYTIMNSFCRRDLVFLLDDC
NALEYPIPVTTVLPDRQR

Signal peptide:

1-19

Tyrosine kinase phosphorylation site.

60-69

N-myristoylation site.

16-22

(57) Abstract: The present invention is directed to a novel polypeptide and to nucleic acid molecules encoding that polypeptide. Also provided herein are methods of treating and diagnosing bone disorders.

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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

Inte ɔnal Application No
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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C07K14/47 C12N15/12 C12N15/62 C07K16/18 A61K38/17
A61K39/395 C12Q1/68 G01N33/68

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 C07K C12N A61K 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)
MEDLINE

C: DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,L	WO 00 56889 A (STEWART TIMOTHY A ;DESNOYERS LUC (US); EATON DAN L (US); GENENTECH) 28 September 2000 (2000-09-28)	1-18
Y	See PRO4425. L: priority	19-26

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[X] Further documents are listed in the continuation of box C.

[X] 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

Date of the actual completion of the international search	Date of mailing of the international search report
31 October 2002	22. 11. 2002

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Smalt, R

Form PCT/ISA/210 (second sheet) (July 1992)

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE EMBL [Online] 9 June 2001 (2001-06-09) KUMAR, S. ET AL: "HOA2-G-8 HOA (Human Osteoarthritic Cartilage) Homo sapiens cDNA, mRNA sequence" Database accession no. BG897954 XP002218581	1-18
Y	the whole document -& KUMAR, S. ET AL.: "Identification and initial characterization of 5000 expressed sequenced tags (ESTs) each from adult human normal and osteoarthritic cartilage cDNA libraries." OSTEOARTHRITIS AND CARTILAGE, vol. 9, no. 7, October 2001 (2001-10), pages 641-53, XP008009844 the whole document	19-26

X	WO 00 63382 A (OSIRIS THERAPEUTICS INC ;CHENG LINZHAO (US); LIU XUAN (US)) 26 October 2000 (2000-10-26) the whole document	1-18

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P,X	WO 01 62891 A (LAFLEUR DAVID W;HUMAN GENOME SCIENCES INC ; NI JIAN (US); EBNER RE) 30 August 2001 (2001-08-30) see gene 62 (seq.ID.72 and 310)	1-12,15, 17,18

E,L	WO 02 00690 A (FERRARA NAPOLEONE ;STEPHAN JEAN PHILIPPE F (US); WILLIAMS P MICKEY) 3 January 2002 (2002-01-03) see PRO4425 and seq.ID's 311 and 312. L: priority.	1-18

INTERNATIONAL SEARCH REPORT

national application No.
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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. [X] Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claims 19-23 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.

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:

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.

INTERNATIONAL SEARCH REPORT

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