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(54) Title: SOLUBLE HUMAN M-CSF RECEPTOR AND USES THEREOF

(57) Abstract: Soluble human M-CSF receptor is provided, along with pharmaceutical compositions containing such receptor, kits containing a pharmaceutical composition, and methods of diagnosing and treating diseases and disorders associated with M-CSF such as bone loss in a subject afflicted with an osteolytic disease.



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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2006/048879

A. CLASSIFICATION OF SUBJECT MATTER
 INV. G01N33/574 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)
 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)

EPO-Internal, WPI Data, BIOSIS, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
X	RAO Q ET AL: "Determination of serum soluble macrophage colony-stimulating factor receptor levels in patients with hematological diseases" CHINESE JOURNAL OF CANCER RESEARCH 2001 CHINA, vol. 13, no. 3, 2001, pages 185-189, XP009094774 ISSN: 1000-9604	11-17
A	abstract page 186, column 1, last paragraph ----- -/--	1-8



Further documents are listed in the continuation of Box C.



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

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

16 July 2008

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11/08/2008

Name and mailing address of the ISA/

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Bigot-Maucher, Cora

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2006/048879

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	STORGA D ET AL: "C-FMS IS PRESENT IN PRIMARY TUMOURS AS WELL AS IN THEIR METASTASES IN BONE MARROW" INTERNATIONAL JOURNAL OF EXPERIMENTAL PATHOLOGY, vol. 73, no. 4, 1992, pages 527-533, XP009094714 ISSN: 0959-9673	11-17
A	abstract page 527, column 1, paragraph 1 page 532, column 1, paragraph 4-6 page 529, column 1, paragraph 3 -----	1-8
A	BAIOCCHI G ET AL: "EXPRESSION OF THE MACROPHAGE COLONY-STIMULATING FACTOR AND ITS RECEPTOR IN GYNECOLOGIC MALIGNANCIES" CANCER, vol. 67, no. 4, 1991, pages 990-996, XP002466462 ISSN: 0008-543X abstract -----	1-8
X	WO 89/03687 A (GENETICS INST [US]) 5 May 1989 (1989-05-05) abstract page 2, paragraph 2 -----	11-17
X	WO 2004/045532 A (CHIRON CORP [US]) 3 June 2004 (2004-06-03) page 45, paragraph 4 -----	11-17
X	WO 2004/075775 A (SUGEN INC [US]; MURRAY LESLEY [US]; O'FARRELL ANNE-MARIE [US]; ABRAMS) 10 September 2004 (2004-09-10) abstract page 55, paragraph 2 -----	11-17
A	KAUMA S W ET AL: "COLONY-STIMULATING FACTOR-1 AND C-FMS EXPRESSION IN HUMAN ENDOMETRIAL TISSUES AND PLACENTA DURING THE MENSTRUAL CYCLE AND EARLY PREGNANCY" JOURNAL OF CLINICAL ENDOCRINOLOGY AND METABOLISM, ENDOCRINE SOCIETY, CHEVY CHASE, MD, vol. 73, no. 4, 1 January 1991 (1991-01-01), pages 746-751, XP009103111 ISSN: 0021-972X abstract -----	9,10
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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2006/048879

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	FUJIMOTO J ET AL: "Induction of M-CSF receptor and its mRNA, and activation of tyrosine kinase in peripheral monocytes by oestradiol-17 beta and progesterone" ANNALS OF CLINICAL BIOCHEMISTRY, BRITISH MEDICAL ASSOCIATION, LONDON, GB, vol. 32, no. Part 4, 1 July 1995 (1995-07-01), pages 399-404, XP009103109 ISSN: 0004-5632 abstract page 403, column 2, paragraphs 2,FF	9,10
A	SHINETUGS B ET AL: "Colony stimulating factor-1 concentrations in blood and follicular fluid during the human menstrual cycle and ovarian stimulation: possible role in the ovulatory process." HUMAN REPRODUCTION (OXFORD, ENGLAND) MAY 1999, vol. 14, no. 5, May 1999 (1999-05), pages 1302-1306, XP002488257 ISSN: 0268-1161 abstract page 1305, column 2, last paragraph - page 1306, column 1, paragraph 1	9,10
A	COHEN P E ET AL: "Macrophages: important accessory cells for reproductive function." JOURNAL OF LEUKOCYTE BIOLOGY NOV 1999, vol. 66, no. 5, November 1999 (1999-11), pages 765-772, XP002488258 ISSN: 0741-5400 abstract	9,10
A	PAMPFER S ET AL: "Expression of colony-stimulating factor-1 (CSF-1) messenger RNA in human endometrial glands during the menstrual cycle: molecular cloning of a novel transcript that predicts a cell surface form of CSF-1" MOLECULAR ENDOCRINOLOGY, BALTIMORE, MD, US, vol. 5, no. 12, 1 December 1991 (1991-12-01), pages 1931-1938, XP009103112 ISSN: 0888-8809 abstract	9,10

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2006/048879

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 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:
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 No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional 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 fees, this Authority did not invite payment of additional fees.
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 and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-8,11-17 (partially)

methods relating to cancer diagnosis, prognosis monitoring
of therapy using determination of M-CSF receptor level; kit
for determining M-CSF receptor level

2. claims: 9-10, 11-17 (partially)

method relating to menstrual cycle using determination of M-
CSF receptor level; kit for determining M-CSF receptor level

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2006/048879

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