

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
11 June 2009 (11.06.2009)

PCT

(10) International Publication Number
WO 2009/072005 A3

(51) International Patent Classification:

C07K 14/52 (2006.01) A61K 38/18 (2006.01)
C12N 15/62 (2006.01) A61K 38/19 (2006.01)
C07K 14/475 (2006.01)

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(21) International Application Number:

PCT/IB2008/003838

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(22) International Filing Date:

15 October 2008 (15.10.2008)

(25) Filing Language:

English

(26) Publication Language:

English

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(30) Priority Data:

60/979,984 15 October 2007 (15.10.2007) US

(81) Designated States (unless otherwise indicated, for every kind of national protection available):

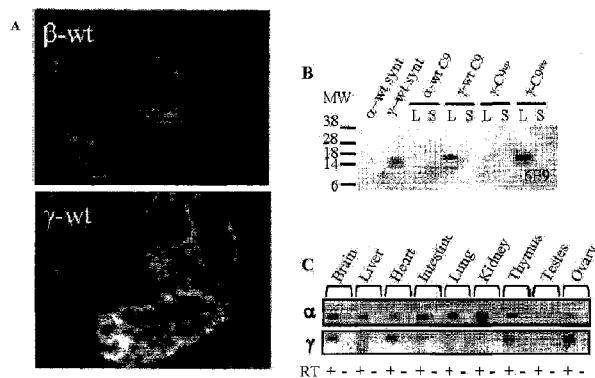
AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR,

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[Continued on next page]

(54) Title: CXCL12 GAMMA A CHEMOKINE AND USES THEREOF

(57) Abstract: The present invention relates to fragments of CXCL12 Gamma A chemokine having improved chemotaxis activity in vivo defined by an unprecedented capacity to associate and immobilise on extracellular glycans.



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KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report (*Art. 21(3)*)
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (*Rule 48.2(h)*)

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI

(88) Date of publication of the international search report:
8 April 2010

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2008/003838

A. CLASSIFICATION OF SUBJECT MATTER

INV. C07K14/52 C12N15/62 C07K14/475 A61K38/18 A61K38/19

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)
C07K

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, Sequence Search, BIOSIS, EMBASE, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 03/012045 A2 (UNIV WAYNE STATE [US]; LOEB JEFFREY A [US]) 13 February 2003 (2003-02-13) abstract page 8, line 12 - page 9, line 7 page 12, line 10 - line 23 page 13, paragraph 4 - paragraph 2 page 46, line 19 - line 31	1, 3-9, 13-21
X	BALEUX F ET AL: "SDF gamma: Synthesis and heparin binding sites identification" 29TH EUROPEAN PEPTIDE SYMPOSIUM; GDANSK, POLAND; SEPTEMBER 03 -08, 2006, [Online] September 2006 (2006-09), XP002556177 Retrieved from the Internet: URL:http://www.29eps.com/docs/0161.doc> [retrieved on 2009-11-18] the whole document	1-3, 5-9, 12-16

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

20 November 2009

Date of mailing of the international search report

24/02/2010

Name and mailing address of the ISA/
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 Wiame, Ilse

INTERNATIONAL SEARCH REPORT

International application No

PCT/IB2008/003838

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2003/215792 A1 (MULLER HANS WERNER [DE] ET AL) 20 November 2003 (2003-11-20) examples 4,6; sequences 2,12,13	1-3,5-9, 12-16
X	ALTENBURG JEFFREY D ET AL: "A naturally occurring splice variant of CXCL12/stromal cell-derived factor 1 is a potent human immunodeficiency virus type 1 inhibitor with weak chemotaxis and cell survival activities" JOURNAL OF VIROLOGY, vol. 81, no. 15, 1 August 2007 (2007-08-01), pages 8140-8148, XP002471819 abstract; figure 1	1-3,5-9, 12-16
X	CLAPS CHRISTOPHER M ET AL: "Stromal derived growth factor-1alpha as a beacon for stem cell homing in development and injury." CURRENT NEUROVASCULAR RESEARCH OCT 2005, vol. 2, no. 4, October 2005 (2005-10), pages 319-329, XP008115082 ISSN: 1567-2026	1-2,5, 13-16
A	the whole document	17-21
X,P	RUEDA PATRICIA ET AL: "The CXCL12gamma chemokine displays unprecedented structural and functional properties that make it a paradigm of chemoattractant proteins." PLOS ONE 2008, vol. 3, no. 7, E2543, 2 July 2008 (2008-07-02), pages 1-12, XP002556179 ISSN: 1932-6203 the whole document	1-3,5-9, 12-16
X,P	LAGURI CÉDRIC ET AL: "The Novel CXCL12gamma Isoform Encodes an Unstructured Cationic Domain Which Regulates Bioactivity and Interaction with Both Glycosaminoglycans and CXCR4" PLOS ONE, vol. 2, no. 10, E1110, 31 October 2007 (2007-10-31), pages 1-10, XP002471820 the whole document	1-3,5-9, 12-16

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.1

Remark 1:

Claim number 15 is duplicated in the originally filed claims. The claim numbering used in the present Search Report is as follows:
the first claim 15 is referred to as claim 15,
the second claim 15 is referred to as claim 16,
claims 16 to 20 are referred to as claims 17 to 21, respectively.

Remark 2:

Claims 2, 5 and 11 refer to CXCL2. However, since the rest of the application is related to CXCL12, the term CXCL2 in the claims has been interpreted as CXCL12 for establishing the Search Report.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2008/003838

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:
see FURTHER INFORMATION sheet PCT/ISA/210
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.:
1-9(completely); 12-21(partially)

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: 1-9(completely); 12-21(partially)

A composition comprising at least a polypeptide sequence binding glycosaminoglycans and/or fragments thereof; and a molecule of interest; or
a composition comprising a homing molecule and a molecule of interest, wherein the homing molecule comprises a polypeptide of formula [BBXB]_n; wherein B is a basic amino acid selected among arginine or lysine or histidine, X is any other amino acid; and n is an integer comprised between 2 and 5 and preferably n is 4;
an antibody binding thereto; a hybridoma producing said antibody and use of said composition or said antibody as a research tool;
use of said composition in a method of facilitating delivery of one or more agents to a patient; and
use of said composition in a method to in vivo immobilising or to concentrate a molecule of interest in a particular tissue environment of a host.

2. claims: 10(completely); 13-15(partially)

A purified or chemically synthesized polypeptide of formula [BBXB]_n wherein B is a basic amino acid selected among arginine or lysine or histidine, X is any other amino acid and n is an integer from 2 to 5, preferably n is 4;
an antibody binding thereto; a hybridoma producing said antibody and use of said polypeptide or said antibody as a research tool.

3. claims: 11(completely); 13-15(partially)

A purified polypeptide having the C-terminal fragment of the CXCL12_{gamma} or a fragment containing at least 15 amino acids comprising at least two BBXB motifs;
an antibody binding thereto; a hybridoma producing said antibody and use of said polypeptide or said antibody as a research tool.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2008/003838

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 03012045	A2	13-02-2003	AT 427317 T	15-04-2009
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