

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
18 October 2001 (18.10.2001)

PCT

(10) International Publication Number
WO 01/77320 A3

(51) International Patent Classification⁷: C12N 15/12,
C07K 14/72, C12N 5/10, C12Q 1/68, G01N 33/50, 33/53,
A61K 48/00

(21) International Application Number: PCT/EP01/03811

(22) International Filing Date: 4 April 2001 (04.04.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/194,701 5 April 2000 (05.04.2000) US

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(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, 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).

Published:

— with international search report

(88) Date of publication of the international search report:
14 March 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 01/77320 A3

(54) Title: REGULATION OF HUMAN HM74-LIKE G PROTEIN COUPLED RECEPTOR

(57) Abstract: Reagents which regulate human HM74-like G protein coupled receptor can play a role in preventing, ameliorating, or correcting dysfunctions or diseases including, but not limited to, infections such as bacterial, fungal, protozoan, and viral infections, particularly those caused by HIV viruses, pain, cancers, anorexia, bulimia, asthma, CNS diseases such as Parkinson's disease, cardiovascular diseases such as acute heart failure, hypotension, hypertension, angina pectoris, and myocardial infarction, urinary retention, osteoporosis, ulcers, asthma, inflammation, allergies, multiple sclerosis, benign prostatic hypertrophy, and psychotic and neurological disorders, including anxiety, schizophrenia, manic depression, delirium, dementia, several mental retardation, and dyskinesias, such as Huntington's disease and Tourett's syndrome.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 01/03811

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/12 C07K14/72 C12N5/10 C12Q1/68 G01N33/50
G01N33/53 A61K48/00

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 G01N A61K

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, EMBL, SEQUENCE SEARCH, 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	EP 0 578 962 A (AMERICAN CYANAMID CO) 19 January 1994 (1994-01-19) fig. 3 PCR9 ---	1-4, 14
X	DATABASE EMBL 'Online! ACCESSION NO: AC026333, 23 March 2000 (2000-03-23) MUZNY, D.M., ET AL.: "Homo sapiens chromosome 12 clone RP11-324E6, WORKING DRAFT SEQUENCE, 13 unordered pieces." XP002180536 the whole document --- -/--	1



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

Date of the actual completion of the international search

18 October 2001

Date of mailing of the international search report

02/11/2001

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 01/03811

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>DATABASE EMBL 'Online! ACCESSION NO: AC026331, 23 March 2000 (2000-03-23) MUZNY, D.M., ET AL.: "Homo sapiens chromosome 12 clone RP11-507N20, WORKING DRAFT SEQUENCE, 10 unordered pieces." XP002180537 the whole document</p> <p style="text-align: center;">---</p>	1
X	<p>WO 98 56820 A (ELSHOURBAGY NABIL A ;SMITHKLINE BEECHAM CORP (US); LI XIAOTONG (US) 17 December 1998 (1998-12-17) the whole document</p> <p style="text-align: center;">---</p>	1-17
E	<p>WO 01 36471 A (ARENA PHARMACEUTICALS INC ;CHEN RUOPING (US); DANG HUONG T (US); L) 25 May 2001 (2001-05-25) SEQ ID NOS:23 and 24</p> <p style="text-align: center;">---</p>	1-11
E	<p>WO 01 36473 A (PARODI LUIS A ;LIND PETER (SE); SEJLITZ TORSTEN (SE); SCHELLIN KAT) 25 May 2001 (2001-05-25) SEQ ID NO:11,12,79 and 80</p> <p style="text-align: center;">---</p>	1-12
P,X	<p>DATABASE EMBL 'Online! ACCESSION NO: AF345568, 3 April 2001 (2001-04-03) WANG, Y., ET AL.: "Homo sapiens putative chemokine receptor (FKSG80) mRNA, complete cds." XP002180538 the whole document</p> <p style="text-align: center;">-----</p>	1,4

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Present claims 8,9,13-17 at least in part relate to a product/compound/method defined by reference to a desirable characteristic or property, namely a reagent that specifically binds to the polynucleotide of claim 1 or any HM-74 like GPCR polypeptide of claim 4, optionally whereby the activity of the HM74-like GPCR is reduced or modulated. The claims cover all products/compounds/methods having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for only a very limited number of such products/compounds/methods. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the product/compound/method by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Consequently in so far as said claims relate to aforementioned reagent, 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 the products/compounds/methods as defined by the antisense to SEQ ID NO:1 as disclosed in example 13

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/EP 01/03811

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
EP 0578962	A	19-01-1994	US 5668006 A	16-09-1997
			AU 4203493 A	20-01-1994
			CA 2100616 A1	18-01-1994
			EP 0578962 A2	19-01-1994
			JP 6153954 A	03-06-1994
			SG 47581 A1	17-04-1998
			US 5929209 A	27-07-1999
			US 6077666 A	20-06-2000
			ZA 9305173 A	02-03-1994
WO 9856820	A	17-12-1998	AU 7966098 A	30-12-1998
			EP 1007563 A1	14-06-2000
			WO 9856820 A1	17-12-1998
WO 0136471	A	25-05-2001	AU 1769601 A	30-05-2001
			WO 0136471 A2	25-05-2001
WO 0136473	A	25-05-2001	AU 1617801 A	30-05-2001
			WO 0136473 A2	25-05-2001