

(19) World Intellectual Property Organization
International Bureau

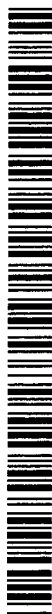


(43) International Publication Date
1 November 2001 (01.11.2001)

PCT

(10) International Publication Number
WO 01/81407 A3

- (51) International Patent Classification⁷: C07K 14/705, A61K 38/17, C12N 7/01, 15/866, G01N 33/50, C12N 15/11, A61K 39/00, 48/00
- (74) Agents: DELUCA, Mark et al.; Woodcock Washburn Kurtz Mackiewicz & Norris LLP, 46th Floor, One Liberty Place, Philadelphia, PA 19103 (US).
- (21) International Application Number: PCT/US01/13053
- (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.
- (22) International Filing Date: 24 April 2001 (24.04.2001)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/199,632 25 April 2000 (25.04.2000) US
- (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).
- (71) Applicant (*for all designated States except US*): PHARMACIA & UPJOHN COMPANY [US/US]; 301 Henrietta Street, Kalamazoo, MI 49001 (US).
- Declaration under Rule 4.17:
— *of inventorship (Rule 4.17(iv)) for US only*
- (72) Inventors; and
- Published:
— *with international search report*
- (75) Inventors/Applicants (*for US only*): LIND, Peter [SE/SE]; Borjegatan 31C, S-751 29 Uppsala (SE). VOGLI, Gabriel [US/US]; 2576 9th Avenue, Seattle, Washington 98119 (US). WOOD, Linda, S. [US/US]; 10193 Fox Hollow, Portage, MI 49024 (US). MERCHANT, Kalpana, M. [US/US]; 5015 Glencove Lane, Portage, MI 49024 (US). SODERBERG, Charlotte [SE/SE]; Eva Lagerwaslls vag 16, S-756 43 Uppsala (SE).
- (88) Date of publication of the international search report:
23 May 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 01/81407 A3

(54) Title: G PROTEIN-COUPLED RECEPTORS

(57) Abstract: The present invention provides a gene encoding a G protein-coupled receptor termed Con-235; constructs and recombinant host cells incorporating the genes; the Con-235 polypeptides encoded by the gene; antibodies to the polypeptides; and methods of making and using all of the foregoing.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 01/13053

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 C07K14/705 A61K38/17 C12N7/01 C12N15/866 G01N33/50
 C12N15/11 A61K39/00 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 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)

WPI Data, BIOSIS, EPO-Internal, EMBASE, EMBL

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00 04045 A (SMITHKLINE BEECHAM PLC ;SMITHKLINE BEECHAM CORP (US)) 27 January 2000 (2000-01-27) the whole document ---	1-81
X	WO 99 10491 A (INCYTE PHARMA INC ;CORLEY NEIL C (US); GUEGLER KARL J (US); LAL PR) 4 March 1999 (1999-03-04) the whole document --- -/--	1-81

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.
- *Z* document member of the same patent family

Date of the actual completion of the international search 7 January 2002	Date of mailing of the international search report 22/01/2002
---	--

Name and mailing address of the ISA 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	Authorized officer Marinoni, J-C
--	---

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/13053

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! EMBL; Accession No. AW083349, 18 October 1999 (1999-10-18) STRAUSBERG R.: "xc08f07.x1 NCI_CGAP_Co21 Homo sapiens cDNA clone IMAGE:2583685 3' similar to TR:o60478 PUTATIVE SEVEN PASS TRANSMEMBRANE PROTEIN. ;, mRNA sequence" XP002185352 abstract	1-7,9, 13-15,22
X	DATABASE EMBL 'Online! EMBL; Accession No. AW530352, 8 March 2000 (2000-03-08) SOARES M.: "UI-R-BU0-amw-b-10-0-UI.s1 UI-R-BU0 Rattus norvegicus cDNA clone UI-RBU0-amw-b-10-0-UI 3', mRNA sequence" XP002185353 abstract	1-7,9, 13-15,22
X	DATABASE EMBL 'Online! EMBL; Accession No. AA268150, 22 March 1997 (1997-03-22) MARRA M. ET AL.: "va40b05.r1 Soares mouse 3NME12 5 Mus musculus cDNA clone IMAGE:733809 5', mRNA sequence" XP002185354 abstract	1-7,9, 13-15,22
P,X	DATABASE BIOSIS 'Online! BIOSCIENCES INFORMATION SERVICE, PHILADELPHIA, PA, US; 2000 SODERBERG C ET AL: "Characterization of a novel subgroup of putative seven transmembrane receptors." Database accession no. PREV200100076253 XP002185325 abstract & SOCIETY FOR NEUROSCIENCE ABSTRACTS, vol. 26, no. 1-2, 2000, pages Abstract No.-140.2, 30th Annual Meeting of the Society of Neuroscience;New Orleans, LA, USA; November 04-09, 2000 ISSN: 0190-5295	1-81

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/13053

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	BOEHM S K ET AL: "REGULATORY MECHANISMS THAT MODULATE SIGNALLING BY G-PROTEIN-COUPLEDRECEPTORS" BIOCHEMICAL JOURNAL, PORTLAND PRESS, LONDON, GB, vol. 322, no. 1, 15 February 1997 (1997-02-15), pages 1-18, XP001013046 ISSN: 0264-6021 cited in the application the whole document -----	

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 44,47,52 all partially

Present claims 44, 47 and 52 relate to an extremely large number of possible compounds. Support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT is to be found, however, for only a very small proportion of the compounds claimed. 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. Consequently, the search has been carried out for those parts of the claims which appear to be supported and disclosed, namely those parts relating to antibodies binding to the con 235 polypeptide.

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 01/13053

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 0004045	A	27-01-2000	EP 1098904 A1 16-05-2001
			WO 0004045 A1 27-01-2000
WO 9910491	A	04-03-1999	US 5994097 A 30-11-1999
			AU 8921198 A 16-03-1999
			EP 1009828 A1 21-06-2000
			JP 2001513997 T 11-09-2001
			WO 9910491 A1 04-03-1999