

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
20 July 2006 (20.07.2006)

PCT

(10) International Publication Number
WO 2006/076231 A3

(51) International Patent Classification:

A61K 31/00 (2006.01) A61P 3/00 (2006.01)
A61K 31/401 (2006.01) G01N 33/58 (2006.01)
A61K 31/4196 (2006.01) G01N 33/566 (2006.01)
A61P 3/10 (2006.01) C12N 15/12 (2006.01)
A61K 31/415 (2006.01)

(21) International Application Number:

PCT/US2006/000510

(22) International Filing Date: 9 January 2006 (09.01.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/643,086 10 January 2005 (10.01.2005) US
60/683,172 19 May 2005 (19.05.2005) US
60/726,880 14 October 2005 (14.10.2005) US

(71) Applicant (for all designated States except US): ARENA PHARMACEUTICALS, INC. [US/US]; 6166 Nancy Ridge Drive, San Diego, California 92121 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): CHU, Zhi-Liang

[US/US]; 11489 Creekstone Lane, San Diego, California 92128 (US). LEONARD, James N. [US/US]; 10667 Viacha Drive, San Diego, California 92124 (US). AL-SHAMMA, Hussien A. [US/US]; 134 Townwood Way, Encinitas, California 92024 (US). JONES, Robert M. [GB/US]; 10937 Corte Luz Del Sol, San Diego, California 92130 (US).

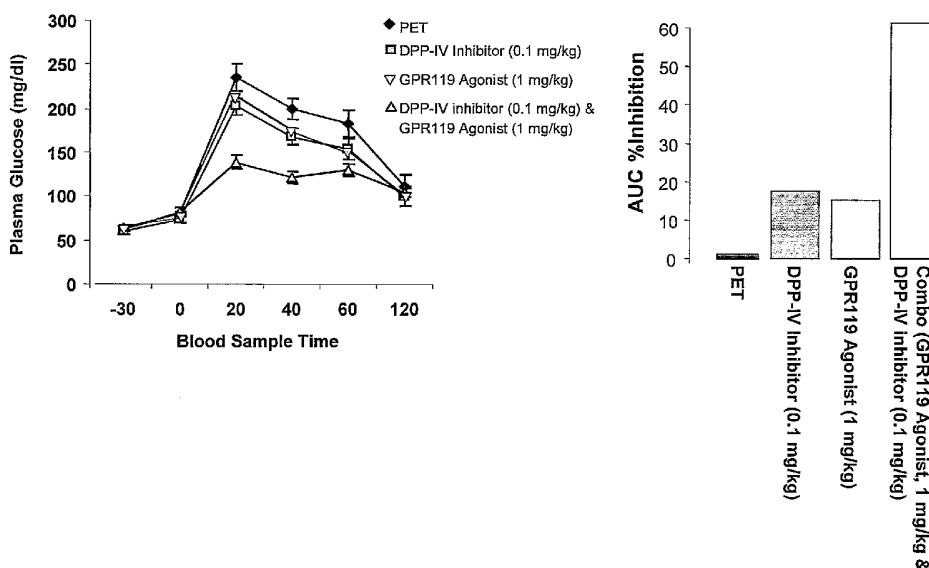
(74) Agents: STRAHER, Michael P. et al.; COZEN O'CONNOR, 1900 Market Street, Philadelphia, Pennsylvania 19103 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(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),

[Continued on next page]

(54) Title: COMBINATION THERAPY FOR THE TREATMENT OF DIABETES AND CONDITIONS RELATED THERETO AND FOR THE TREATMENT OF CONDITIONS AMELIORATED BY INCREASING A BLOOD GLP-1 LEVEL



(57) Abstract: The present invention concerns combination of an amount of a GPR119 agonist with an amount of a dipeptidyl peptidase IV (DPP-IV) inhibitor such that the combination provides an effect in lowering a blood glucose level or in increasing a blood GLP-1 level in a subject over that provided by the amount of the GPR119 agonist or the amount of the DPP-IV inhibitor alone and the use of such a combination for treating or preventing diabetes and conditions related thereto or conditions ameliorated by increasing a blood GLP-1 level. The present invention also relates to the use of a G protein-coupled receptor to screen for GLP-1 secretagogues.

WO 2006/076231 A3



European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(88) Date of publication of the international search report:
18 January 2007

(15) Information about Correction:

Previous Correction:

see PCT Gazette No. 38/2006 of 21 September 2006

Published:

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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

International application No
PCT/US2006/000510

A. CLASSIFICATION OF SUBJECT MATTER

INV. A61K31/00 A61K31/401 A61K31/4196 A61P3/10 A61K31/415
A61P3/00 G01N33/58 G01N33/566 C12N15/12

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)
A61K A61P

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, PAJ, EMBASE, BIOSIS, CHEM ABS Data, 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 2004/065380 A (ARENA PHARMACEUTICALS INC; JONES, ROBERT, M; SEMPLE, GRAEME; FIORAVANT) 5 August 2004 (2004-08-05) claims 78-100 page 90, line 8 - page 92, line 27 page 108, line 33 - page 111, line 18	1-47
X	WO 2004/076413 A (ARENA PHARMACEUTICALS, INC; JONES, ROBERT, M; SEMPLE, GRAEME; CHOI, JI) 10 September 2004 (2004-09-10) cited in the application claims 48-68 page 72, line 1 - page 74, line 25 page 62, line 22 - page 65, line 32 ----- -/--	1-47

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

2 November 2006

Date of mailing of the international search report

17/11/2006

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

Lemarchand, Aude

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2006/000510

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	XU J: "Metabolic Diseases Drug Discovery - Strategic Research Institute's Third International World Summit. Dipeptidyl peptidase-IV inhibitors" IDRUGS 2004 UNITED KINGDOM, vol. 7, no. 9, 2004, pages 839-840, XP007900708 ISSN: 1369-7056 the whole document	1-34
P,X	WO 2005/007647 A (ARENA PHARMACEUTICALS, INC; JONES, ROBERT, M; SEMPLE, GRAEME; XIONG, Y) 27 January 2005 (2005-01-27) claims 65-81,86-104,109-115,120-122	1-34
P,X	WO 2005/007658 A (ARENA PHARMACEUTICALS, INC; JONES, ROBERT, M; SEMPLE, GRAEME; XIONG, Y) 27 January 2005 (2005-01-27) claims 56-72,77-95,100-106,111-116	1-34
P,X	WO 2005/121121 A (ARENA PHARMACEUTICALS, INC; JONES, ROBERT, M; SEMPLE, GRAEME; XIONG, Y) 22 December 2005 (2005-12-22) page 117, lines 29-32 claims 35-42	1-34
P,X	WO 2005/061489 A (PROSIDION LIMITED; FYFE, MATTHEW; GARDNER, LISA; KING-UNDERWOOD, JOHN;) 7 July 2005 (2005-07-07) claims 19,22	1-34
X	WEBER A E: "DIPEPTIDYL PEPTIDASE IV INHIBITORS FOR THE TREATMENT OF DIABETES" JOURNAL OF MEDICINAL CHEMISTRY, AMERICAN CHEMICAL SOCIETY. WASHINGTON, US, vol. 47, 2004, pages 4135-4141, XP002329845 ISSN: 0022-2623 pages 540-541	1-34
A	WO 00/31258 A (ARENA PHARMACEUTICALS, INC; CHEN, RUOPING; DANG, HUONG, T; LIAW, CHEN,) 2 June 2000 (2000-06-02) claims 1-13 paragraphs [0052], [0054] - [0059] sequences 7, 8	1-47
X	DRUCKER DANIEL J: "Enhancing incretin action for the treatment of type 2 diabetes." DIABETES CARE. OCT 2003, vol. 26, no. 10, October 2003 (2003-10), pages 2929-2940, XP002386376 ISSN: 0149-5992 the whole document	1-47

-/--

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2006/000510

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	TAKASAKI KOTARO ET AL: "Effects of combination treatment with dipeptidyl peptidase IV inhibitor and sulfonylurea on glucose levels in rats" JOURNAL OF PHARMACOLOGICAL SCIENCES, vol. 95, no. 2, June 2004 (2004-06), pages 291-293, XP007900710 ISSN: 1347-8613 the whole document	1-34
X	WO 02/083128 A (BRISTOL-MYERS SQUIBB COMPANY; SULSKY, RICHARD, B; ROBL, JEFFREY, A) 24 October 2002 (2002-10-24) claim 12	1-34
X	WO 01/52825 A (NOVARTIS AG; NOVARTIS-ERFINDUNGEN VERWALTUNGSGESELLSCHAFT M.B.H; BALKAL) 26 July 2001 (2001-07-26) claims 1-5	1-34
X	WO 99/38501 A (TRUSTEES OF TUFTS UNIVERSITY; BACHOVCHIN, WILLIAM, W; PLAUT, ANDREW, G) 5 August 1999 (1999-08-05) claims 1-8	1-34
A	WO 00/53171 A (MOLTENI L. E C. DEI FRATELLI ALITTI SOCIETA' DI ESERCIZIO S.P.A; MANNU) 14 September 2000 (2000-09-14) the whole document	1-34
E	WO 2006/047248 A (NOVARTIS AG; NOVARTIS PHARMA GMBH; BURKEY, BRYAN; HUGHES, THOMAS EDWAR) 4 May 2006 (2006-05-04) claims 1-25	1-34
X	AHREN BO ET AL: "Inhibition of dipeptidyl peptidase-4 reduces glycemia, sustains insulin levels, and reduces glucagon levels in type 2 diabetes" JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM, vol. 89, no. 5, May 2004 (2004-05), pages 2078-2084, XP007900709 ISSN: 0021-972X the whole document	1-34

-/--

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2006/000510

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	AHRÉN BO ET AL: "Inhibition of dipeptidyl peptidase IV improves metabolic control over a 4-week study period in type 2 diabetes." DIABETES CARE. MAY 2002, vol. 25, no. 5, May 2002 (2002-05), pages 869-875, XP007900711 ISSN: 0149-5992 the whole document	1-34
A	JP 2004 269469 A (YAMANOUCHI PHARMACEUT CO LTD) 30 September 2004 (2004-09-30) cited in the application paragraphs [0005] - [0007]	1-34
A	JP 2004 269468 A (YAMANOUCHI PHARMACEUT CO LTD) 30 September 2004 (2004-09-30) paragraphs [0005] - [0007]	1-34
A	WO 03/026661 A (YAMANOUCHI PHARMACEUTICAL CO., LTD; YONETOKU, YASUHIRO; MARUYAMA, TATS) 3 April 2003 (2003-04-03) abstract	1-34
A	HOLZ G G ET AL: "GLUCAGON-LIKE PEPTIDE-1 SYNTHETIC ANALOGS: NEW THERAPEUTIC AGENTS FOR USE IN THE TREATMENT OF DIABETES MELLITUS" CURRENT MEDICINAL CHEMISTRY, BENTHAM SCIENCE PUBLISHERS BV, BE, vol. 10, no. 22, November 2003 (2003-11), pages 2471-2483, XP009035149 ISSN: 0929-8673 page 2471, paragraph 1 page 2473, column 2, paragraphs 1,2 page 2474, column 2, paragraph 2 - page 2475, column 1, paragraph 1; figure 2	1-47
A	FREDRIKSSON R ET AL: "Seven evolutionarily conserved human rhodopsin G protein-coupled receptors lacking close relatives" FEBS LETTERS, ELSEVIER, AMSTERDAM, NL, vol. 554, no. 3, 20 November 2003 (2003-11-20), pages 381-388, XP004472955 ISSN: 0014-5793 the whole document	1-47

-/--

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2006/000510

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 338 651 A1 (YAMANOUCHI PHARMA CO LTD [JP]) 27 August 2003 (2003-08-27) sequence 2 page 6, paragraph 28 page 12, paragraph 83 - page 13, paragraph 90 examples 6,7	35-47
A	US 6 468 756 B1 (BONINI JAMES A [US] ET AL) 22 October 2002 (2002-10-22) claim 7; sequence 2	35-47
P,A	EP 1 538 217 A1 (YAMANOUCHI PHARMA CO LTD [JP] ASTELLAS PHARMA INC [JP]) 8 June 2005 (2005-06-08) abstract; sequence 2	35-47
A	BRUBAKER P L ET AL: "Regulation of glucagon-like peptide-1 synthesis and secretion in the GLUTag enteroendocrine cell line." ENDOCRINOLOGY. OCT 1998, vol. 139, no. 10, October 1998 (1998-10), pages 4108-4114, XP002403176 ISSN: 0013-7227 the whole document	35-47

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.1

Although claims 1-11, 18-20, 24-29 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.

Continuation of Box II.1

Claims Nos.: -

claims 37-39 and 45-47 relate to subject-matters considered by this Authority to be covered by the provision of Rule 67.1(iv) PCT. They are considered to be diagnostic methods practised on the human/animal body as GLP-1 secretagogues are intended to be administered to a mammal and the resulting increase of GLP-1 level in blood is intended to be measured. Hence, it is clear that these latter methods would be performed by skilled medical practitioners. It is also apparent that these methods may be directed to the diagnosis of medical conditions. Thus, it is considered that claims 37-39 and 45-47 include diagnostic methods practised on the human/animal body. Consequently, no preliminary examination will be formulated for the subject-matters of these claims (Article 34(4) (a) (I) PCT).

Continuation of Box II.2

Invention 1: Claims 1-34 have been searched incompletely due to a lack of support and disclosure in the sense of Article 6/5 PCT rendering impossible a meaningful search over their whole scope for the following reasons :

1. The present claims encompass compositions of compounds defined only by their desired function (namely "GPR119 agonist", "DPP-IV inhibitor") contrary to the requirements of clarity of Art. 6 PCT, because the result-to-be-achieved type of definition does not allow the scope of the claim to be ascertained. In addition, dosage to be administered are defined by a desiderata, "amounts sufficient.." ".to lower a blood glucose level" or ".to increase a blood GLP-1 level" and are therefore not clearly defined (Art.6 PCT). Considering the examples of present application, which involve compositions containing either AR231453 and AR247810 or AR244061 as GPR119 agonist with one DPP-IV inhibitor among MK-0431, LAF237 and FE107542 and their use in the treatment of type II diabetes, the subject-matter of claims 1-34 lacks support and the scope of said claims might be broader than justified (Art. 6 PCT).

2. Additionally, none of the following denominations "AR231453", "AR247810", "AR244061" and "FE107542" has a generally acknowledged meaning. A skilled person would not be able to determine which

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

compositions are provided to illustrate and support the subject-matter of present application. He would not even be able to determine which class of GPR 119 agonist and which class of DPP-IV inhibitor are used in compositions providing the reported effect. Because said effect is only reported for four specific compositions (examples 1-3, 14) it is not plausible that all possible combinations intended to be protected involve the same effect. Therefore, the application is considered to lack disclosure (Article 5 PCT). AR231453 and AR244060 being not defined, no meaningful search of the specific examples can be done.

3. A skilled man would not be able to determine which combinations lead to compositions entitled to protection by considering the infinite number of possible compounds intended to be used and defined in pages 109-112, 29-106 and 116-126, table B. Considering the lack of support and disclosure (Article 6/5 PCT), a meaningful search over the whole scope of the claims is impossible. The search of claims 1-34 was restricted to the claimed compositions which appear to be clear and supported, namely to compositions involving a compound already known as GPR 119 or RUP3 inhibitor and a DPP-IV inhibitor being preferably LAF237, MK-0431, BMS-477118, PSN-9301 and SYR-322 as supported by pages 1 and 2 of the description.

In addition, the first composition among the 11718 possibilities implied by the list of table B has been searched, namely a composition comprising [6
-(4-benzenesulfonyl-piperidin-1-yl)-5-nitro-pyrimidin-4-yl]-(4-methanesulfonyl-phenyl)-amine and valine-pyrrolidide and its use in the treatment of type 2 diabetes.

Because of the huge panel of GPR 119 agonists and DPP-IV inhibitors, an objection to lack of unity (Rule 13.1 PCT) could theoretically arise against claims 1-34 because there is no novel or/and inventive feature that could link the single inventions encompassed by said claims so as to form a general inventive concept. However, in this case, given the non limitative nature of both GPR 119 agonists and DPP-IV inhibitors, a meaningful non-unity objection could not be raised.

Invention 2: Claims 35-47 have been searched incompletely due to a lack of support and disclosure in the sense of Article 6 and 5 PCT, thus rendering impossible a meaningful search over their whole scope.

The use of the expression "treating or preventing a condition ameliorated by increasing a blood GLP-1 level" (claims 35-37, 43-45) does not provide a clear list of diseases for which said screening/diagnostic methods are intended to be used. The augmentation of a biological factor in response to the occupation of a receptor cannot be considered itself as a therapeutic application, even if representing an important piece of scientific knowledge. Such a discovery still needs to find a practical application in the form of a diagnostic method linked to a defined, real pathology or condition. Therefore, the subject-matter of said claims lacks clarity in the sense of Article 6 PCT.

The subject-matter of said claims are considered to lack disclosure in the sense of Article 5 PCT as all the examples of present application solely refer to Type 2 diabetes as disease. The non-compliance with the substantive provisions is to such an extent, that the search was performed taking into consideration the non-compliance in determining

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

the extent of the search of claims 35-47 (PCT Guidelines 9.19 and 9.23). The search has been limited to screening methods to identify agents enabling the secretion of GLP-1 and/or the treatment of conditions such as diabetes and conditions listed in claims 8 and 10 and in page 18, lines 20-24.

The applicant's attention is drawn to the fact that 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. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2006/000510

Box 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:
Although claims 1-11, 18-20, 24-29 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:
see FURTHER INFORMATION sheet PCT/ISA/210
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 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 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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-34

a composition comprising a GPR 119 agonist and a DPP IV inhibitor and use thereof in therapy

2. claims: 35-47

A method for identifying GLP-1 secretagogues or compounds useful for treating/preventing a condition ameliorated by increasing a blood GLP-1 level

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2006/000510

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 2004065380	A	05-08-2004	AU 2004205642 A1	05-08-2004
			BR 0406761 A	20-12-2005
			CA 2512899 A1	05-08-2004
			EP 1599468 A1	30-11-2005
			HR 20050696 A2	31-12-2005
			JP 2006516572 T	06-07-2006
			MA 27707 A1	02-01-2006
			MX PA05007485 A	30-01-2006
			WO 2004076413	A
BR PI0407620 A	21-02-2006			
CA 2515963 A1	10-09-2004			
CN 1751038 A	22-03-2006			
EP 1606282 A2	21-12-2005			
JP 2006518763 T	17-08-2006			
MX PA05007614 A	25-05-2006			
WO 2005007647	A	27-01-2005		
			BR PI0412488 A	19-09-2006
			CA 2532152 A1	27-01-2005
			EP 1644357 A1	12-04-2006
			KR 20060034289 A	21-04-2006
			MA 27909 A1	02-05-2006
			WO 2005007658	A
BR PI0412689 A	03-10-2006			
CA 2532971 A1	27-01-2005			
EP 1644375 A2	12-04-2006			
KR 20060056944 A	25-05-2006			
MX PA06000554 A	03-07-2006			
WO 2005121121	A	22-12-2005		
WO 2005061489	A	07-07-2005	AU 2004303604 A1	07-07-2005
			CA 2549955 A1	07-07-2005
			EP 1711491 A1	18-10-2006
WO 0031258	A	02-06-2000	AT 301673 T	15-08-2005
			AU 770056 B2	12-02-2004
			AU 3790400 A	13-06-2000
			AU 2004202147 A1	10-06-2004
			CA 2348377 A1	02-06-2000
			DK 1133559 T3	10-04-2006
			EP 1133559 A2	19-09-2001
			HK 1037675 A1	02-12-2005
			JP 2003534767 T	25-11-2003
			JP 2004267216 A	30-09-2004
			NZ 511087 A	30-01-2004
			NZ 527622 A	24-03-2005
			PT 1133559 T	31-10-2005
WO 02083128	A	24-10-2002	CA 2444465 A1	24-10-2002
			EP 1377288 A1	07-01-2004
			HU 0401423 A2	29-11-2004
			JP 2004532220 T	21-10-2004
			WO 0152825	A
BR 0107715 A	19-11-2002			

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2006/000510

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0152825	A		CA 2397554 A1 CN 1400908 A EP 1248604 A2 JP 2003520226 T	26-07-2001 05-03-2003 16-10-2002 02-07-2003
WO 9938501	A	05-08-1999	AU 766219 B2 AU 2493599 A AU 2003264609 A1 CA 2319195 A1 EP 1052994 A2 JP 2002501889 T JP 2005041885 A	09-10-2003 16-08-1999 08-01-2004 05-08-1999 22-11-2000 22-01-2002 17-02-2005
WO 0053171	A	14-09-2000	AU 3960400 A	28-09-2000
WO 2006047248	A	04-05-2006	NONE	
JP 2004269469	A	30-09-2004	NONE	
JP 2004269468	A	30-09-2004	NONE	
WO 03026661	A	03-04-2003	NONE	
EP 1338651	A1	27-08-2003	AU 1850902 A WO 0244362 A1 JP 3438186 B2 US 2003180813 A1	11-06-2002 06-06-2002 18-08-2003 25-09-2003
US 6468756	B1	22-10-2002	AU 777247 B2 AU 3003500 A CA 2362906 A1 EP 1075493 A2 JP 2002539772 T WO 0050562 A2	07-10-2004 14-09-2000 31-08-2000 14-02-2001 26-11-2002 31-08-2000
EP 1538217	A1	08-06-2005	AU 2003262042 A1 CA 2489405 A1 WO 2004024943 A1 US 2005191612 A1	30-04-2004 25-03-2004 25-03-2004 01-09-2005