

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
5 February 2009 (05.02.2009)

PCT

(10) International Publication Number
WO 2009/016462 A3

(51) International Patent Classification:

C07D 498/04 (2006.01) A61P 3/04 (2006.01)
A61K 31/553 (2006.01) A61P 3/10 (2006.01)

(21) International Application Number:

PCT/IB2008/001963

(22) International Filing Date: 22 July 2008 (22.07.2008)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/953,507 2 August 2007 (02.08.2007) US

(71) Applicant (for all designated States except US): **PFIZER PRODUCTS INC.** [US/US]; Eastern Point Road, Groton, CT 06340 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **DOW, Robert, Lee** [US/US]; Pfizer Global Research & Development, Eastern Point Road, Groton, CT 06340 (US). **MUNCHHOF, Michael, John** [US/US]; Pfizer Global Research & Development, Eastern Point Road, Groton, CT 06340 (US).

(74) Agents: **FULLER, Grover, F., Jr.** et al.; c/o GEORGE, Nancy McGraw, Pfizer Inc., MS8260-1615, Eastern Point Road, Groton, CT 06340 (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, 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.

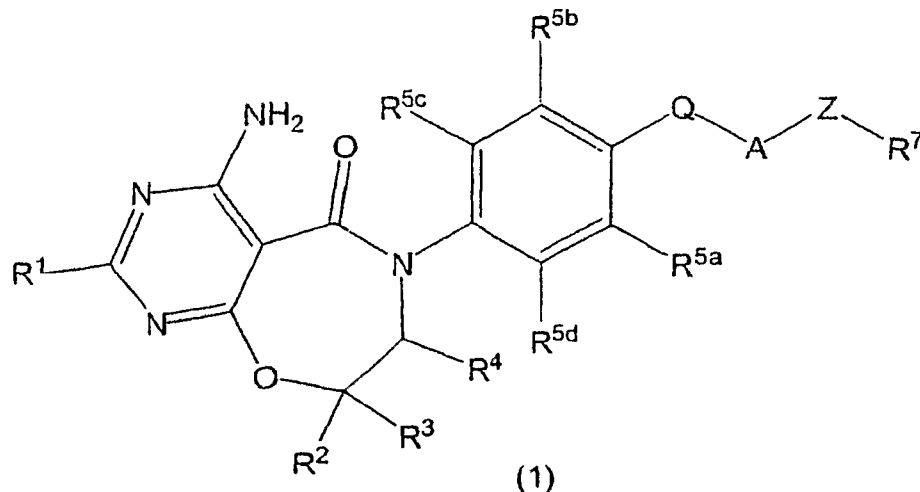
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT,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

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

(88) Date of publication of the international search report:
26 March 2009

(54) Title: SUBSTITUTED BICYCLOLACTAM COMPOUNDS



(57) Abstract: The invention provides compounds of formula (1), and the pharmaceutically acceptable salt thereof, wherein R¹, R², R³, R⁴, R^{5a}, R^{5b}, R^{5c}, R^{5d}, Q, A, Z, and R⁷ are as described herein; compositions thereof; and uses thereof for the treatment of diabetes and obesity.

WO 2009/016462 A3

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2008/001963

A. CLASSIFICATION OF SUBJECT MATTER

INV. C07D498/04 A61K31/553 A61P3/04 A61P3/10

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)
C07D

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, CHEM ABS Data, BEILSTEIN Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2007/071966 A (ASTRAZENECA AB [SE]; ASTRAZENECA UK LTD [GB]; BIRCH ALAN MARTIN [GB];) 28 June 2007 (2007-06-28) abstract; claim 1	1-27
A	WO 2004/047755 A (TULARIK INC [US]; JAPAN TOBACCO INC [JP]; FOX BRIAN M [US]; FURUKAWA N) 10 June 2004 (2004-06-10) abstract; claim 1	1-27
A	EP 1 473 295 A (KYORIN SEIYAKU KK [JP]) 3 November 2004 (2004-11-03) abstract; claim 1	1-27

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

23 January 2009

Date of mailing of the international search report

30/01/2009

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Authorized officer

Bérillon, Laurent

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2008/001963

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 2007071966	A	28-06-2007	AR 058562 A1	13-02-2008
			CN 101346387 A	14-01-2009
			EP 1966221 A1	10-09-2008
			US 2008306059 A1	11-12-2008
			UY 30050 A1	31-07-2007
WO 2004047755	A	10-06-2004	AU 2003293006 A1	18-06-2004
			BR 0315688 A	06-09-2005
			CA 2514473 A1	10-06-2004
			CN 1753897 A	29-03-2006
			EP 1562956 A2	17-08-2005
			JP 3988830 B2	10-10-2007
			JP 2006509764 T	23-03-2006
			KR 20050090986 A	14-09-2005
			MX PA05005425 A	23-11-2005
			NZ 539952 A	30-05-2008
			ZA 200503823 A	22-02-2006
			EP 1473295	A
CA 2472835 A1	31-07-2003			
CN 1620459 A	25-05-2005			
WO 03062245 A1	31-07-2003			
MX PA04006571 A	04-10-2004			
NZ 533540 A	28-04-2006			
US 2005085469 A1	21-04-2005			