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(71) Applicant (for all designated States except US): **PFIZER LIMITED** [GB/GB]; Ramsgate Road, Sandwich, Kent CT13 9NJ (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **GLADWELL, Iain, Robert** [GB/GB]; Pfizer Research and Development, European Patent Department, Ramsgate Road, Sandwich, Kent, CT13 9NJ (GB). **DE KONING, Pieter, David** [NL/GB]; Pfizer Research and Development, European Patent Department, Ramsgate Road, Sandwich, Kent, CT13 9NJ (GB). **MOSES, Ian, Brian** [GB/GB]; Pfizer

Research and Development, European Patent Department, Ramsgate Road, Sandwich, Kent, CT13 9NJ (GB). **PETTMAN, Alan, John** [GB/GB]; Pfizer Research and Development, European Patent Department, Ramsgate Road, Sandwich, Kent, CT13 9NJ (GB). **THOMSON, Nicholas, Murray** [GB/GB]; Pfizer Research and Development, European Patent Department, Ramsgate Road, Sandwich, Kent, CT13 9NJ (GB).

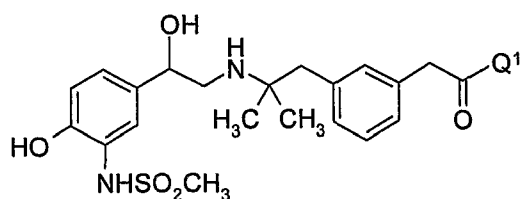
(74) Agents: **DROUIN, Stéphane** et al.; Pfizer Research and Development, Ramsgate Road, Sandwich, Kent CT13 9NJ (GB).

(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, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, 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, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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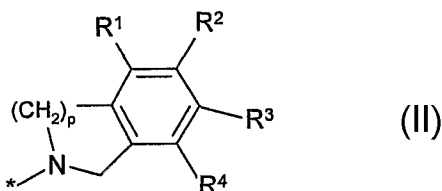
[Continued on next page]

(54) Title: PROCESS FOR THE PREPARATION OF SULFONAMIDE DERIVATIVES

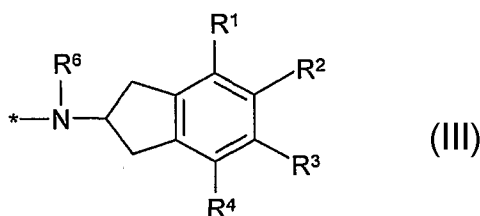


(I)

(57) Abstract: The invention relates to a process for the preparation of compounds of formula (I) wherein Q<sup>1</sup> is a group selected from formulae (II) & (III) and a group \*-NR<sup>6</sup>-Q<sup>2</sup>-A or, if appropriate, their pharmaceutically acceptable salts and/or isomers, tautomers, solvates or isotopic variations thereof, as well as intermediates used in said process.



(II)



(III)

WO 2007/010356 A3



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, 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).

**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*

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23 August 2007

*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/IB2006/001958

**A. CLASSIFICATION OF SUBJECT MATTER**  
 INV. C07C303/40 C07D209/04 C07D303/36 C07C237/20 C07C51/09  
 C07C57/34 C12P7/44  
 ADD. C07C311/48 C07C311/08

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)  
 C07C C07D C12P C12N

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, CHEM ABS Data, WPI Data, PAJ, 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,P	WO 2005/080324 A1 (PFIZER LTD [GB]; BROWN ALAN DANIEL [GB]; JAMES KIM [GB]; LANE CHARLOTT) 1 September 2005 (2005-09-01) the whole document	1-27, 31-46
Y	EP 1 195 371 A (ASAHI CHEMICAL IND [JP]) 10 April 2002 (2002-04-10) the whole document	1-27, 31-46
Y	WO 01/36375 A (FUJISAWA PHARMACEUTICAL CO [JP]; TANIGUCHI KIYOSHI [JP]; KAYAKIRI HIRO) 25 May 2001 (2001-05-25) page 4; claim 8; examples	1-27, 31-46
Y	US 6 576 793 B1 (MORAN EDMUND J [US] ET AL) 10 June 2003 (2003-06-10) claim 8; figures 10,12 column 37; figure C	1-27, 31-46
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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  15 June 2007	Date of mailing of the international search report  28/06/2007
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  Bedel, Christian

## INTERNATIONAL SEARCH REPORT

International application No  
PCT/IB2006/001958

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>MALAMAS M S ET AL: "POTENT, SELECTIVE AMINOTHIAZOLIDINEDIONES AGONISTS OF THE HUMAN BETA3 ADRENERGIC RECEPTOR" MEDICINAL CHEMISTRY RESEARCH, BIRKHAUSER, BOSTON, US, vol. 10, no. 3, 2000, pages 164-177, XP001031326 ISSN: 1054-2523 page 166; figure 1 page 168; example 19; table 1</p>	1-27, 31-46
A	<p>WO 00/50628 A (SCHERING CORP [US]) 31 August 2000 (2000-08-31) the whole document</p>	28-30
A	<p>PHIL. TRANS. R. SOC. LOND. B, no. 324, 1989, pages 577-587, XP009084923 page 577, last paragraph - page 580, paragraph 1</p>	28-30
A	<p>GABRIELE SABBIONI J. BRYAN JONES: "Enzymes in Organic Synthesis. 39. Preparations of Chiral Cyclic Acid-Esters and Bicyclic Lactones via Stereoselective Pig Liver Esterase Catalyzed Hydrolyses of Cyclic Meso Diesters" J. ORG. CHEM., no. 52, 1987, pages 4565-4570, XP002437780 the whole document</p>	28-30

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/IB2006/001958

## 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:
  
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 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: 1-27,31-46

Process for making compound of formula (I), the  
bis-sulfonamide derivative of (I) and other intermediates  
for the preparation of (I)  
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2. claims: 28-30

process for making compound (16) by hydrolysing compound  
(18) with an enzyme  
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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/IB2006/001958
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
WO 2005080324	A1	01-09-2005	AR 047510 A1	25-01-2006
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