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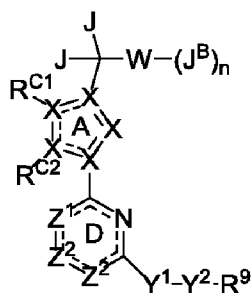
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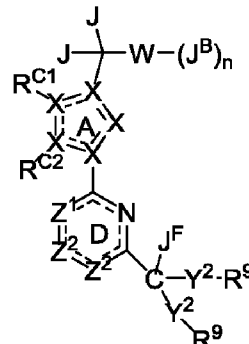
- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

[Continued on next page]

(54) Title: sGC STIMULATORS



Formula (Ia)



Formula (Ib)

(57) Abstract: The present patent application discloses at least the compounds according to Formula (Ia) and Formula (Ib) shown below, or pharmaceutically acceptable salts thereof, wherein ring D, ring A, J^B, n, J, R^{C1}, R^{C2}, Z¹, Z², W, X, Y¹, Y², J^F and R⁹ are as defined herein.



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19 May 2016

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2015/050464

A. CLASSIFICATION OF SUBJECT MATTER		
INV.	C07D401/14 C07D405/14 A61K31/4155 A61P9/08	C07D413/14 C07D401/04 C07D417/14 A61P37/06
ADD.		
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 practicable, search terms used) EPO-Internal, WPI Data, CHEM ABS Data		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2012/003405 A1 (IRONWOOD PHARMACEUTICALS INC [US]; KIM CHARLES [US]; NAKAI TAKASHI [US]) 5 January 2012 (2012-01-05) claim 1 examples the whole document	1-86, 89-129
X	WO 2012/064559 A1 (IRONWOOD PHARMACEUTICALS INC [US]; KIM CHARLES [US]; NAKAI TAKASHI [US]) 18 May 2012 (2012-05-18) cited in the application claim 1 examples the whole document	1-86, 89-129
	----- -/-	
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> 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 application or patent 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 22 December 2015		Date of mailing of the international search report 31/03/2016
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 Panday, Narendra

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2015/050464

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2014/047111 A1 (IRONWOOD PHARMACEUTICALS INC [US]; IM G-YOON JAMIE [US]; IYENGAR RAJES) 27 March 2014 (2014-03-27) the whole document claim 1 examples	1-86, 89-129
X	----- WO 2014/047325 A1 (IRONWOOD PHARMACEUTICALS INC [US]; NAKAI TAKASHI [US]; PERL NICHOLAS R) 27 March 2014 (2014-03-27) cited in the application the whole document examples	1-86, 89-129
X	----- WO 2013/101830 A1 (IRONWOOD PHARMACEUTICALS INC [US]; KIM CHARLES [US]; NAKAI TAKASHI [US]) 4 July 2013 (2013-07-04) the whole document examples	1-86, 89-129
X,P	----- WO 2014/144100 A2 (NAKAI TAKASHI [US]; MOORE JOEL [US]; PERL NICHOLAS ROBERT [US]; IYENGA) 18 September 2014 (2014-09-18) the whole document claim 1 examples	1-86, 89-129
X,P	----- WO 2015/089182 A1 (IRONWOOD PHARMACEUTICALS INC [US]) 18 June 2015 (2015-06-18) the whole document claim 1 examples	1-86, 89-129

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2015/050464

Box No. 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 No. 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 fees, this Authority did not invite payment of additional fees.
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.:

92(completely); 1-86, 89-91, 93-129(partially)

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ 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: 92(completely); 1-86, 89-91, 93-129(partially)

Compounds of Formula IIA (Claim 85) and II'Ab (claim 86) as sGC stimulators

2. claims: 1-86, 89-91, 93-129(all partially)

Compounds of Formulae II'Ba (Claim 85) and II'Bb (claim 86) as sGC stimulators

3. claims: 1-86, 93-129(all partially)

Compounds of Formulae II'Ca(Claim 85) and II'Cb (claim 86) as sGC stimulators

4. claims: 1-86, 93-129(all partially)

Compounds of Formulae II'Da (Claim 85) and II'Db (claim 86) as sGC stimulators

5. claims: 1-86, 93-129(all partially)

Compounds of Formulae II'Ea (Claim 85) and II'Eb (claim 86) as sGC stimulators

6. claims: 1-86, 93-129(all partially)

Compounds of Formulae II'Fa (Claim 85) and II'Fb (claim 86) as sGC stimulators

7. claims: 1-86, 93-129(all partially)

Compounds of Formulae II'Ga (Claim 85) and II'Gb (claim 86) as sGC stimulators

8. claims: 1-86, 93-129(all partially)

Compounds of Formulae II'Ha (Claim 85) and II'Hb (claim 86) as sGC stimulators

9. claims: 87, 88(completely); 1-84, 89-91, 93-129(partially)

Compounds of Formulae II''Aa to II''Ha (Claim 87) and II''Ab to II''Hb (claim 88) as sGC stimulators

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

10. claims: 1-84, 93-129(all partially)

Compounds comprised in claim 1 as sGC stimulators not
comprised in the former 9 groups of inventions.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2015/050464

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