

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 09-0634-WO-1	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/US2015/055421	International filing date (<i>day/month/year</i>) 14 October 2015 (14-10-2015)	(Earliest) Priority Date (<i>day/month/year</i>) 15 October 2014 (15-10-2014)
Applicant BOEHRINGER INGELHEIM INTERNATIONAL GMBH		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of:

- ☒ the international application in the language in which it was filed
☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6**bis**(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box No. II)

3. ☐ **Unity of invention is lacking** (see Box No III)

4. With regard to the **title**,

- ☒ the text is approved as submitted by the applicant
☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

- ☒ the text is approved as submitted by the applicant
☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. _____
☐ as suggested by the applicant
☐ as selected by this Authority, because the applicant failed to suggest a figure
☐ as selected by this Authority, because this figure better characterizes the invention
b. ☐ none of the figures is to be published with the abstract

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2015/055421

A. CLASSIFICATION OF SUBJECT MATTER INV. C07D405/14 C07D413/14 C07D405/04 C07D417/14 A61P13/12 A61P9/12 A61P9/10 A61K31/43 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.
Y	US 2010/292225 A1 (CHAMOIN SYLVIE [FR] ET AL) 18 November 2010 (2010-11-18) pages 18-120; claims; examples 59,60,81 -----	1-14
Y	WO 2014/055595 A1 (MERCK SHARP & DOHME [US]; ELEXOPHARM GMBH [DE]; ALI AMJAD [US]; LO MIC) 10 April 2014 (2014-04-10) pages 2-5; claims; tables ----- -/--	1-14
☒ 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 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 13 January 2016		Date of mailing of the international search report 12/02/2016
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 Seelmann, Marielle

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International application No

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	LUCAS SIMON ET AL: "In Vivo Active Aldosterone Synthase Inhibitors with Improved Selectivity: Lead Optimization Providing a Series of Pyridine Substituted 3,4-Dihydro-1H-quinolin-2-one Derivatives", JOURNAL OF MEDICINAL CHEMISTRY, AMERICAN CHEMICAL SOCIETY, US, vol. 51, no. 24, 25 December 2008 (2008-12-25), pages 8077-8087, XP002594615, ISSN: 0022-2623, DOI: 10.1021/JM800888Q [retrieved on 2008-12-02] in particular compound 8 in scheme 1; the whole document	1-14
Y	----- WO 2010/042477 A1 (SCHERING CORP [US]; MCCORMICK KEVIN D [US]; BOYCE CHRISTOPHER W [US];) 15 April 2010 (2010-04-15) claims 1, 7-18 -----	1-14

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2015/055421

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2010292225	A1	18-11-2010	AR 076908 A1 20-07-2011
		AU 2010247414 A1 01-12-2011	
		CA 2761859 A1 18-11-2010	
		CN 102803217 A 28-11-2012	
		CN 104892502 A 09-09-2015	
		CO 6470898 A2 29-06-2012	
		CR 20110592 A 04-01-2012	
		CU 20110207 A7 15-02-2012	
		DK 2429995 T3 22-04-2014	
		EA 201101618 A1 29-06-2012	
		EC SP11011526 A 31-01-2012	
		EP 2429995 A1 21-03-2012	
		ES 2459468 T3 09-05-2014	
		HK 1163666 A1 06-06-2014	
		HR P20140371 T1 23-05-2014	
		JP 5659224 B2 28-01-2015	
		JP 2012526774 A 01-11-2012	
		KR 101338555 B1 09-12-2013	
		MA 33358 B1 01-06-2012	
		NZ 596302 A 31-01-2014	
		PE 04032012 A1 03-05-2012	
		PT 2429995 E 30-04-2014	
		RS 53275 B 29-08-2014	
		SG 175925 A1 29-12-2011	
		SI 2429995 T1 30-05-2014	
		SV 2011004061 A 04-01-2012	
		TW 201100382 A 01-01-2011	
		US 2010292225 A1 18-11-2010	
		US 2013035354 A1 07-02-2013	
		US 2013296309 A1 07-11-2013	
		UY 32640 A 31-12-2010	
		WO 2010130796 A1 18-11-2010	
WO 2014055595	A1	10-04-2014	CA 2886117 A1 10-04-2014
			EP 2903615 A1 12-08-2015
			JP 2015531398 A 02-11-2015
			US 2015225365 A1 13-08-2015
			WO 2014055595 A1 10-04-2014
WO 2010042477	A1	15-04-2010	AR 073629 A1 17-11-2010
			TW 201026688 A 16-07-2010
			WO 2010042477 A1 15-04-2010