

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 335442PCTOMH	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/EP2015/055823	International filing date (<i>day/month/year</i>) 19 March 2015 (19-03-2015)	(Earliest) Priority Date (<i>day/month/year</i>) 4 April 2014 (04-04-2014)
Applicant IOMET PHARMA LTD		

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 8 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:

INDOLE DERIVATIVES FOR USE IN MEDICINE

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/EP2015/055823

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.:
1-19, 21, 22, 28, 32, 33, 35(all 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.

INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2015/055823

A. CLASSIFICATION OF SUBJECT MATTER

INV. A61K31/404 A61K31/4045 A61K31/405 A61K31/407 A61K31/4184
 A61K31/4188 A61K31/423 A61K31/424 A61P31/00 A61P25/00
 A61P35/00 A61P37/00 A61P43/00 A61K31/4355 A61K31/437

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 practicable, search terms used)

EPO-Internal, BIOSIS, WPI Data, EMBASE, FSTA

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2011/136807 A1 (HANGAUER JR DAVID G [US]) 9 June 2011 (2011-06-09) cited in the application the whole document page 25, paragraph 206 table VI; compounds 1q,1ee ----- -/-	1-7, 9-14, 16-19, 21,22, 28,32, 33,35



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

21 May 2015

Date of mailing of the international search report

24/08/2015

Name and mailing address of the ISA/

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Houyvet-Landriscina

INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2015/055823

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	TSOTINIS A ET AL: "C5,C6-disubstituted 1H-indole-2-carboxamides: Synthesis and cytotoxic activity in the human non-small lung cancer cell line NSCLC-N16-L16", LETTERS IN DRUG DESIGN AND DISCOVERY 200602 NL, vol. 3, no. 1, February 2006 (2006-02), pages 14-16, XP002739856, ISSN: 1570-1808 pages 15-16; compounds 6a-6h -----	1-7, 9-14,16, 18,19, 21,22, 28,32, 33,35
X	DOLUSIC EDUARD ET AL: "Discovery and preliminary SARs of keto-indoles as novel indoleamine 2,3-dioxygenase (IDO) inhibitors", EUROPEAN JOURNAL OF MEDICINAL CHEMISTRY, vol. 46, no. 7, July 2011 (2011-07), pages 3058-3065, XP002739857, ISSN: 0223-5234 cited in the application page 3062, column 2, paragraph 2 page 3063; figure 1; table 2 -----	1-7,9, 13,18, 19,21, 22,28, 32,33,35
X	KAMLENDRA S. BHADORIYA, SHAILESH V. JAIN, SANJAYKUMAR B. BARI, MANISH L. CHAVHAN, AND KULDEEP R. VISPUTE: "3D-QSAR Study of Indol-2-yl Ethanones Derivatives as Novel Indoleamine 2,3-Dioxygenase (IDO) Inhibitors", E-JOURNAL OF CHEMISTRY, vol. 9, no. 4, 2012, pages 1753-1759, XP002739858, Retrieved from the Internet: URL: http://www.hindawi.com/journals/jchem/2012/368617/cta/ > page 1753 - page 1754 compound 21 -----	1-7,9, 13,18, 19,21, 22,28, 32,33,35

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2015/055823

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2011136807	A1	09-06-2011	CA 2656165 A1 03-01-2008
			EP 2038254 A2 25-03-2009
			JP 2009542679 A 03-12-2009
			TW 200817327 A 16-04-2008
			US 2008004241 A1 03-01-2008
			US 2011136807 A1 09-06-2011
			WO 2008002674 A2 03-01-2008

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-19, 21, 22, 28, 32, 33, 35(all partially)
indole derivatives for use in the treatment of a cancer

2. claims: 1-20, 28, 32, 33, 35(all partially)
indole derivatives for use in the treatment of an
inflammatory condition

3. claims: 1-19, 23, 28, 32, 33, 35(all partially)
indole derivatives for use in the treatment of an infectious
disease

4. claims: 1-19, 24, 28, 32, 33, 35(all partially)
indole derivatives for use in the treatment of an CNS
disease or disorder

5. claims: 1-19, 28, 32, 33, 35(all partially)
indole derivatives for use in the treatment of coronary
heart disease

6. claims: 1-19, 28, 32, 33, 35(all partially)
indole derivatives for use in the treatment of chronic renal
failure

7. claims: 1-19, 28, 32, 33, 35(all partially)
indole derivatives for use in the treatment of post
anaesthesia cognitive dysfunction

8. claims: 1-19, 25, 28, 32, 33, 35(all partially)
indole derivatives for use in the treatment of an disease
condition or disorder relating to female reproductive health

9. claims: 1-19, 28, 32, 33, 35(all partially)
indole derivatives for use in the treatment of cataracts

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

10. claims: 29-31, 34, 35(all partially)

indole derivatives in combination with an anti-cancer agent
for use in the treatment of cancer

11. claims: 26, 27(partially)

a pharmaceutical composition comprising an indole derivative

12. claims: 37(completely); 36, 38(partially)

an indole compound

13. claim: 39(partially)

a method of synthesis of an indole compound as defined in
claims 36-38

14. claims: 1-4, 7-13, 15, 16, 18-35(all partially)

benzimidazole derivatives and their use in medicine

15. claims: 1-4, 7-13, 15-36, 38, 39(all partially)

benzoxazole derivatives and their use in medicine

16. claims: 1-4, 7-13, 15, 16, 18-35(all partially)

4-azaindole derivatives and their use in medicine

17. claims: 1-4, 7-13, 15, 16, 18-35(all partially)

4-azabenzimidazole derivatives and their use in medicine

18. claims: 1-4, 7-13, 15, 16, 18-35(all partially)

4-azabenzoxazole derivatives and their use in medicine

19. claims: 1-4, 7-13, 15-36, 38, 39(all partially)

5-azaindole derivatives and their use in medicine

20. claims: 1-4, 7-13, 15, 16, 18-35(all partially)

5-azabenzimidazole derivatives and their use in medicine

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

21. claims: 1-4, 7-13, 15, 16, 18-35(all partially)

5-azabenzoxazole derivatives and their use in medicine

22. claims: 1-4, 7-13, 15-36, 38, 39(all partially)

6-azaindole derivatives and their use in medicine

23. claims: 1-4, 7-13, 15, 16, 18-35(all partially)

6-azabenzimidazole derivatives and their use in medicine

24. claims: 1-4, 7-13, 15, 16, 18-35(all partially)

6-azabenzoxazole derivatives and their use in medicine

25. claims: 1-4, 7-13, 15-36, 38, 39(all partially)

7-azaindole derivatives and their use in medicine

26. claims: 1-4, 7-13, 15, 16, 18-35(all partially)

7-azabenzimidazole derivatives and their use in medicine

27. claims: 1-4, 7-13, 15, 16, 18-35(all partially)

7-azabenzoxazole derivatives and their use in medicine
