

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference BHC234006WO	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/US2024/017497	International filing date (day/month/year) 27 February 2024 (27-02-2024)	(Earliest) Priority Date (day/month/year) 28 February 2023 (28-02-2023)
Applicant VIVIDION THERAPEUTICS, INC		

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 5 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 43.6bis(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:

1-([1,1'-BIPHENYL]-2-YL)SULFONYL-4-FLUORO-N-(3-(METHYLSULFONYL)ALLYL)PIPERIDINE-4-CARBOXAMIDE
DERIVATIVES AS RAS-PI3K MODULATORS FOR THE TREATMENT OF E.G. CANCER

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

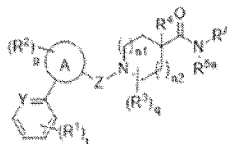
- ☐ the text is approved as submitted by the applicant
☒ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority

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

Box No. IV Text of the abstract (Continuation of item 5 of the first sheet)

The present invention relates to compounds of formula (I)



Formula (I),

as RAS-PI3K modulators for use in methods of treatment of cancer, immunological disorders and wound healing.

Preferred compounds are e.g. 1-((([1,1'-biphenyl]-2-yl)sulfonyl)-4-fluoro-N-(3-(methylsulfonyl)allyl)piperidine-4-carboxamide derivatives.

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PCT/US2024/017497

A. CLASSIFICATION OF SUBJECT MATTER INV. C07D211/96 A61K31/445 A61P35/00 A61P37/00 A61P17/02 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 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, 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	CAULFIELD THOMAS J. ET AL: "Parallel Solid-Phase Synthesis of Peptidyl Michael Acceptors", JOURNAL OF COMBINATORIAL CHEMISTRY, vol. 2, no. 6, 21 October 2000 (2000-10-21), pages 600-603, XP93179237, US	1 - 65
A	ISSN: 1520-4766, DOI: 10.1021/cc0000444 supporting information: 8-amino-4-[[[1-[(5-methyl-3-phenyl-4-isoxazolyl)carbonyl]-4-piperidinyl]carbonyl]amino]-2-octenoic acid (CAS-RN: 315667-65-3) supporting information: page 49, compound 18d, 8-amino-4-[[[1-([1,1'-biphenyl]-4-ylcarbonyl)-4-piperidinyl]carbonyl]amino]-2-octenoic acid (CAS-RN: RN 315667-63-1) -/-	66 - 69
☒ 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 26 June 2024		Date of mailing of the international search report 10/07/2024
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 Cortés Suárez, José

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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.
X	& CAULFIELD THOMAS J. ET AL: "Parallel Solid-Phase Synthesis of Peptidyl Michael Acceptors: Supplementary Information (1)", JOURNAL OF COMBINATORIAL CHEMISTRY., vol. 6, no. S1, 21 October 2000 (2000-10-21), pages 1-40, XP93179326, US ISSN: 1520-4766, DOI: 10.1021/cc0000444	1-65
A	supporting information: 8-amino-4-[[[1-[(5-methyl-3-phenyl-4-isoxazolyl)carbonyl]-4-piperidinyl]carbonyl]amino]-2-octenoic acid (CAS-RN: 315667-65-3)	66-69
X	& CAULFIELD THOMAS J. ET AL: "Parallel Solid-Phase Synthesis of Peptidyl Michael Acceptors: Supplementary Information (2)", JOURNAL OF COMBINATORIAL CHEMISTRY., vol. 6, no. S2, 21 October 2000 (2000-10-21), pages 41-56, XP93179334, US ISSN: 1520-4766, DOI: 10.1021/cc0000444	1-65
A	supporting information, page 49, compound 18d, 8-amino-4-[[[1-([1,1'-biphenyl]-4-ylcarbonyl)-4-piperidinyl]carbonyl]amino]-2-octenoic acid (CAS-RN: RN 315667-63-1)	66-69
A	----- WO 2009/098282 A1 (NOVASAID AB [SE]; WANNBERG JOHAN [SE] ET AL.) 13 August 2009 (2009-08-13) page 30 to page 35, table, compounds 164, 170, 171, 174, 197, 203, 204, 212, 228 and 229 claims 1, 10 and 11 -----	1-69
A	KUMAR SANDEEP ET AL: "Piperlongumine, a piper alkaloid targets Ras/PI3K/Akt/mTOR signaling axis to inhibit tumor cell growth and proliferation in DMH/DSS induced experimental colon cancer", BIOMEDICINE & PHARMACOTHERAPY, vol. 109, January 2019 (2019-01), pages 1462-1477, XP085552009, ISSN: 0753-3322, DOI: 10.1016/J.BIOPHA.2018.10.182 abstract figures 1 to 11 -----	1-69

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Information on patent family members

International application No

PCT/US2024/017497

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2009098282	A1	13-08-2009	NONE
