

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property

Organization

International Bureau

(43) International Publication Date

12 December 2024 (12.12.2024)



(10) International Publication Number

WO 2024/254017 A3

(51) International Patent Classification:

A61K 38/12 (2006.01) C07K 14/47 (2006.01)

C07K 7/56 (2006.01) A61P 35/00 (2006.01)

A61K 45/06 (2006.01)

GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

(21) International Application Number:

PCT/US2024/032319

(22) International Filing Date:

03 June 2024 (03.06.2024)

Published:

— with international search report (Art. 21(3))

(25) Filing Language:

English

(26) Publication Language:

English

(88) Date of publication of the international search report:

24 April 2025 (24.04.2025)

(30) Priority Data:

63/471,492 06 June 2023 (06.06.2023) US

63/510,357 26 June 2023 (26.06.2023) US

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(81) Designated States (unless otherwise indicated, for every

kind of national protection available): AE, AG, AL, AM,

AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ,

CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM,

DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,

HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG,

KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY,

MA, MD, MG, MK, MN, MU, MW, MX, MY, MZ, NA,

NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO,

RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH,

TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS,

ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every

kind of regional protection available): ARIPO (BW, CV,

(54) Title: STAPLED PEPTIDES AND METHODS THEREOF

(57) Abstract: Among other things, the present disclosure provides technologies including 1-66 formulations, compositions, methods, etc. for treating various cancers.



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**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/US 24/32319

A. CLASSIFICATION OF SUBJECT MATTER  
 IPC - INV. A61K 38/12, C07K 7/56, A61K 45/06 (2024.01)  
 ADD. C07K 14/47, A61P 35/00 (2024.01)

CPC - INV. A61K 38/12, C07K 7/56, A61K 45/06

ADD. C07K 14/47, A61P 35/00

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)  
 See Search History document

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
 See Search History document

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
 See Search History document

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2022/261257 A1 (FOG PHARMACEUTICALS, INC.) 15 December 2022 (15.12.2022); para [0008], [0082], [0241]	1
Y	US 2014/0005118 A1 (Verdine et al.) 02 January 2014 (02.01.2014); abstract, para [0320]	1
A	Dietrich et al. "Cell Permeable Stapled Peptide Inhibitor of Wnt Signaling that Targets b-Catenin Protein-Protein Interactions" Cell Chemical Biology. 17 August 2017 (17.08.2017) vol 24, pg. 958-968; entire document	1
A	US 2022/0213154 A1 (FOG PHARMACEUTICALS, INC.) 07 July 2022 (07.07.2022); entire document	1

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
"D" document cited by the applicant in the international application	"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
"E" earlier application or patent but published on or after the international filing date	"&" document member of the same patent family
"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	

Date of the actual completion of the international search

01 October 2024 (01.10.2024)

Date of mailing of the international search report

**DEC 23 2024**

Name and mailing address of the ISA/US  
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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 24/32319

**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.: 83  
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:  
Claim 83 has been found to be unsearchable because it is an improper omnibus claim, not drafted in accordance with Rule 6.2(a).
  
3.  Claims Nos.: 4, 6-33, 37-39, 45, 47-61, 65-71, 79-82  
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 supplemental page)

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 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

**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/US 24/32319

--continued from Box No. III--

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be searched, the appropriate additional search fees must be paid.

Group I+: Claims 1-3, 5, 34-36, 40-44, 46 and 62-64, directed to a composition of claim 1. The composition of claim 1 will be searched to the extent that it encompasses the first species of claim 1, represented by a composition consisting of I-66; a buffer agent, which is the first buffer agent of claim 24 sodium phosphate monobasic and a solvent which is the first solvent of claim 29, water (wherein optional groups/compounds are omitted). It is believed that claim 1 reads on this first named invention, and thus these claims will be searched without fee. This first named invention has been selected based on the guidance set forth in section 10.54 of the PCT International Search and Preliminary Examination Guidelines. Applicant is invited to elect additional compounds of claim 1, wherein each additional compound elected will require one additional invention fee. Applicants must specify the claims that encompass any additionally elected compound. Applicants must further indicate, if applicable, the claims which encompass the first named invention, if different than what was indicated above for this group. Failure to clearly identify how any paid additional invention fees are to be applied to the '+' group(s) will result in only the first claimed invention to be searched. Additionally, an exemplary election wherein different actual variables are selected is suggested. An exemplary election would be a composition consisting of I-66; a buffer agent, which is Tris and a solvent which is the first solvent of claim 29, water (wherein optional groups/compounds are omitted) (i.e., claim 1).

Group II: Claim 72, directed to a method comprising comparing I-66 in a preparation with a reference standard.

Group III: Claims 73-78, directed to a method comprising administering I-66.

The group of inventions listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

Special Technical Features:

Group I+ includes the technical feature of a unique composition of claim 1, which is not required by any other invention of Group I+, II or III.

Group II includes the technical feature of a method comprising comparing I-66 in a preparation with a reference standard, which is not required by any other invention of Group I+ or III.

Group III includes the technical feature of a method comprising administering I-66, which is not required by any other invention of Group I+ or II.

Common Technical Features:

The inventions of Groups I+ share the technical feature of a composition of claim 1.

The inventions of Groups I+, II and III share the technical feature of a composition of claim 1.

These shared technical features, however, do not provide a contribution over the prior art, as being obvious over WO 2022/261257 A1 to FOG PHARMACEUTICALS, INC. (hereinafter Fog). Fog discloses a composition (para [0008]), comprising: I-66 (para [0241]: (pg. 121) SP-2-4) (see instant specification, para [0077], for structure of I-66); a buffer agent (para [0082]: buffering agents); and a solvent (para [0082]: pyrogen-free water), but does not disclose a specific embodiment comprising said composition. Based on Fog's disclosure, it would have been obvious to one with skill in the art to prepare the composition disclosed comprising various disclosed active agents and pharmaceutically acceptable carriers through routine experimentation in order to optimize delivery of the active agent.

As said compound was known in the art, these cannot be considered special technical features that would otherwise unify the inventions of Groups I+ or II-III. The inventions of Group I+ and II-III thus lack unity under PCT Rule 13.

Note: Claims 4, 6-33, 37-39, 45, 47-61, 65-71, 79-82 have been found to be unsearchable because they are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Claim 83 has been found to be unsearchable because it is an improper omnibus claims, not drafted in accordance with Rule 6.2(a).