

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

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ETATS-UNIS D'AMERIQUE

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(PCT Rule 71.1)

Date of mailing
(day/month/year)

22.12.2025

Applicant's or agent's file reference
43705-02019/WO-MOMA-002

IMPORTANT NOTIFICATION

International application No.
PCT/US2024/045640

International filing date (day/month/year)
06.09.2024

Priority date (day/month/year)
08.09.2023

Applicant
Moma Therapeutics, Inc.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary report on patentability and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international
preliminary examining authority:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0

Authorized Officer

Gillis, Paule

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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 43705-02019WO-MOMA-002	FOR FURTHER ACTION		See Form PCT/IPEA/416																
International application No. PCT/US2024/045640	International filing date (day/month/year) 06.09.2024	Priority date (day/month/year) 08.09.2023																	
International Patent Classification (IPC) or national classification and IPC INV. A61P35/00																			
Applicant Moma Therapeutics, Inc.																			
1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. 2. This REPORT consists of a total of <u>6</u> sheets, including this cover sheet. 3. This report is also accompanied by ANNEXES, comprising: a. ☒ a total of <u>2</u> sheets, as follows: ☒ sheets of the description, claims and/or drawings which have been amended and/or sheets containing rectifications authorized by this Authority, unless those sheets were superseded or cancelled, and any accompanying letters (see Rules 46.5, 66.8, 70.16, 91.2, and Section 607 of the Administrative Instructions). ☐ sheets containing rectifications, where the decision was made by this Authority not to take them into account because they were not authorized by or notified to this Authority at the time when this Authority began to draw up this report, and any accompanying letters (Rules 66.4bis, 70.2(e), 70.16 and 91.2). ☐ superseded sheets and any accompanying letters, where this Authority either considers that the superseding sheets contain an amendment that goes beyond the disclosure in the international application as filed, or the superseding sheets were not accompanied by a letter indicating the basis for the amendments in the application as filed, as indicated in item 4 of Box No. I and the Supplemental Box (see Rule 70.16(b)). b. ☐ a separate electronic file containing a sequence listing (<i>sent to the International Bureau only</i>)																			
4. This report contains indications relating to the following items: <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;">☒ Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td>☐ Box No. II</td> <td>Priority</td> </tr> <tr> <td>☐ Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td>☐ Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td>☒ Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td>☐ Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td>☐ Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td>☒ Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>				☒ Box No. I	Basis of the report	☐ Box No. II	Priority	☐ Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	☐ Box No. IV	Lack of unity of invention	☒ Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	☐ Box No. VI	Certain documents cited	☐ Box No. VII	Certain defects in the international application	☒ Box No. VIII	Certain observations on the international application
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☒ Box No. VIII	Certain observations on the international application																		
Date of submission of the demand 07.02.2025		Date of completion of this report 22.12.2025																	
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0		Authorized officer Koch, Kristian Telephone No. +49 89 2399-7175																	



INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US2024/045640

Box No. I Basis of the report

1. With regard to the **language**, this report is based on
 - ☒ 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 (under Rules 12.3(a) and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4(a))
 - ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a) and (b))
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-839 as originally filed

Claims, Numbers

1-52 as originally filed

- ☐ a sequence listing - see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
 - ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 4. ☒ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since either they are considered to go beyond the disclosure as filed, or they were not accompanied by a letter indicating the basis for the amendments in the application as filed, as indicated in the Supplemental Box (Rules 70.2(c) and (c-bis)):
 - ☒ the description, pages 837
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 5. ☐ This report has been established:
 - ☐ taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rules 66.1(d-bis) and 70.2(e)).
 - ☐ without taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91(Rules 66.4bis and 70.2(e)).

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US2024/045640

6. ☒ With regard to top-up searches (Rules 66.1 *ter* and 70.2(f)):
- ☒ A top-up search was carried out by this Authority on 11.12.2025 (all discovered documents are listed in the Supplemental Box Relating to Top-up Search).
 - ☐ Additional relevant documents have been discovered during the top-up search.
 - ☐ No top-up search was carried out by this Authority because it would serve no useful purpose.
7. ☐ Supplementary international search report(s) from Authority(ies) has/have been received and taken into account in establishing this report (Rule 45bis.8(b) and (c)).

* If item 4 applies, some or all of those sheets may be marked "superseded".

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	<u>1-52</u>
	No: Claims	
Inventive step (IS)	Yes: Claims	<u>1-52</u>
	No: Claims	
Industrial applicability (IA)	Yes: Claims	<u>1-52</u>
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item I

Basis of the report

1. The amended page 837 of the description filed with the letter dated 07.02.2025 goes beyond the disclosure in the international application as filed (cf. Article 34(2)(b) PCT).

A inadvertent typographical error in table A on page 837 has been corrected wherein the assay format B value for compound 201 is corrected from "+" to "++++". It is plausible that a typographical error has been made when entering the value for compound 201 in table A, however, the amendment has no basis in the application as originally filed. In addition, it is not unambiguously clear that nothing else could have been intended than the proposed rectification. The value could also have been intended to be for example "++++". The reader of the description as originally filed cannot determine that the value "+++++" was intended when filing the application.

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

2. Reference is made to the following documents:

- | | |
|----|---|
| D1 | WO 2023/062575 A1 (IDEAYA BIOSCIENCES INC [US] ET AL.) 20 April 2023 (2023-04-20) |
| D2 | WO 2022/249060 A1 (NOVARTIS AG [CH]) 1 December 2022 (2022-12-01) |

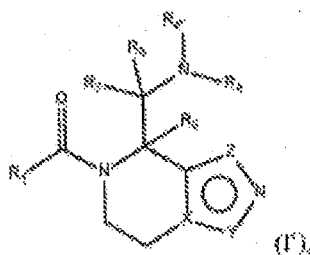
3. Claims 42, 45, and 48-52 relate to subject-matter considered by this Authority to be covered by the provisions of Rule 39.1(iv)/67.1(iv) PCT.

The patentability of claims 42, 45, and 48-52 can be dependent upon the formulation of the claims. The EPO, for example, does not recognise as patentable claims to the use of a compound in medical treatment, but may allow claims to a product, in particular substances or compositions for use in a first or further medical treatment. Nevertheless, the present written opinion deals with the subject-matter of claims 42, 45, and 48-52.

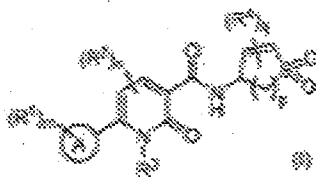
The applicant should notice that claims 44 and 47 are in the form of a Swiss-type claim. This form would be allowable in the regional phase under the EPC but since 28 January 2011, it is understood literally as the use in preparing a medicament and thus not considered a limiting first or second medical use according to Article 54(4) and (5) EPC.

4. Novelty

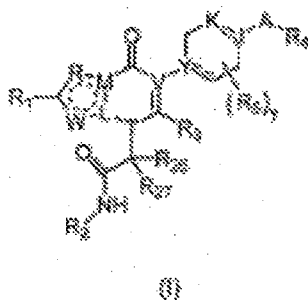
The current application is directed to compounds of formula (I') wherein Z is NR³ or CR³ and R³ and R⁴ together with the atoms to which they are attached form a 6- to 10-membered heterocycle, and their use as modulator of Werner helicase (WRN) activity for the treatment of cancers.



D1 discloses compounds of formula (I) and their use as WRN modulators for the treatment of cancers.



D2 discloses compounds of formula (I) and their use as WRN modulators for the treatment of cancers.



The present compounds of formula (I') differ from the compounds of D1 and D2 on account of the present core structure which comprises three rings in a peri-condensed ring system.

Thus, the subject-matter of claims 1-52 appears to be novel and fulfils the requirements of Article 33(2) PCT.

5. Inventive step

The documents D1 and D2 can equally be selected as the closest prior art, since D1 and D2 disclose heterocyclic compounds for the same use.

The present compounds and those of D1 and D2 differ on account of the core structure which is comprises three rings in a peri-condensed ring system. for the present compounds.

There is no comparative data available to show that the present compounds have an additional/improved effect over the compounds of D1 or D2.

Thus, the objective technical problem to be solved is the provision of alternative compounds having activity as modulators of WRN for the treatment of cancers.

The tested compounds 1-260 of the description appear to have the wanted activity (Table A, [1926]).

As the specific structural element of the three rings in a peri-condensed ring system is not disclosed nor derivable from the prior art, the solution suggested by the applicant can be considered to involve an inventive step.

Thus, the subject-matter of claims 1-52 appears to fulfil the requirements of Article 33(3) PCT.

Re Item VIII

Certain observations on the international application

6. Claim 2 comprises all the features of claim 1 and is therefore not appropriately formulated as a claim dependent on the latter (Rule 6.4 PCT).

7. Claims 34-37 and 39-41 contains a reference to the compounds of tables 1, 2, 1A and 2A or compound numbers given in the description. According to Rule 6.2(a) PCT, claims should not contain such references except where absolutely necessary, which is not the case here.

**INTERNATIONAL PRELIMINARY EXAMINATION AUTHORITY (IPEA/EP)
UNDER THE PATENT COOPERATION TREATY**

Applicant: MOMA Therapeutics, Inc.
International Application No.: PCT/US2024/045640
International Filing Date: 06 September 2024
Title of the Invention: TRICYCLIC DERIVATIVES AND RELATED USES

Via ePCT

European Patent Office
P.B. 5818 Patentlaan 2
NL-2280 HV Rijswijk
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AMENDMENT UNDER PCT ARTICLE 34

In response to the International Search Report and Written Opinion mailed 09 December 2024, the International Preliminary Examination Authority is requested to enter amendments to the specification under Article 34 as directed hereinafter. Please replace page 837 of the originally filed application with substitute page 837 set forth in the attached replacement sheet (clean and marked versions provided). This Amendment is being filed along with a PCT Chapter II Demand.

The specification is amended to correct an inadvertent typographical error in Table A, wherein the "ATPase ADPGlo AC50 (uM) – Assay Format B" value for Compound 201 is updated from "+" to "+++++."

The amendment to the specification does not go beyond the original disclosure in the International Application as filed pursuant to PCT Article 34. If additional information is required, please contact the undersigned.

Dated: February 7, 2025

Respectfully submitted,
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By: /Christine Dunne/
Christine Dunne
Reg. No. 78,279

REPLACEMENT SHEET (clean) Attorney Docket No.: MOMA-002/001WO (340678-2020)

ATPase ADPGlo AC50 (uM) – Assay Format A	ATPase ADPGlo AC50 (uM) – Assay Format B	HCT116 (MSI) Viability 7 Day Abs AC50 (uM)	HT29 (MSS) Viability 7 Day CTGAbs AC50 (uM)	Compound Number	Example Number
	++++	*	###	171	C-20
	+++	*	###	172	A-10-1
	+++	*	###	173	C-29
+	++	*	###	174	C-28
	++	**	###	175	A-25-1
	++	*	###	176	C-30
	+++	*	###	177	A-24
+	+++	*	###	178	A-4-29
	++++	**	###	179	A-33
	++++	*	###	180	A-5-1
+	++	*	###	181	A-4-28
+	++	*	###	182	A-4-30
+	++	*	###	183	A-14
+	+++	*	###	184	A-22
	++++	*	##	185	C-35
+	+++	*	###	186	A-16
+	+++	*	###	187	C-22-1
	++	*	###	188	A-28
+	+++	*	###	189	E-6
	+++	*	###	190	E-7
	+++	*	###	191	A-10-2
+	+++	*	###	192	A-10-12
+	+++	*	###	193	A-10-3
++	+++	*	###	194	A-13
+	+++	*	###	195	E-5
+	+++	*	###	196	A-10-4
	+++	*	###	197	A-10-5
+	+++	*	###	198	C-25
+	+++	*	###	199	A-10-6
+	++++	*	###	200	A-26
+++++	+++++	*****	###	201	L-6
++	++	*	###	202	A-10-7
	+++	*	###	203	L-1-2
	++++	*	###	204	A-4-33
	+++	*	###	205	C-25-6
++	++	*	###	206	A-12
	+++	*	###	207	A-10-8
	++	*	###	208	A-18
	++	*	###	209	A-27
	++	*	###	210	A-10-9

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