

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference F20W6702	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/CN2020/088585	International filing date (<i>day/month/year</i>) 05 May 2020	(Earliest) Priority Date (<i>day/month/year</i>) 05 May 2019
Applicant QILU REGOR 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 6 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:

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.

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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.: **25-33**
because they relate to subject matter not required to be searched by this Authority, namely:

[1] Claims 25-33 are directed to the methods for the treatment of human or animal body by therapy. But the search has been carried out and based on the following subject matter: the use of a compound according to any one of claims in the manufacture of medicaments for the treatment of diseases.
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).

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Box No. IV	Text of the abstract (Continuation of item 5 of the first sheet)
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Provided is a compound represented by structural formula (I):

,

or a pharmaceutically acceptable salt, or a stereoisomer thereof useful for treating cancer.

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A. CLASSIFICATION OF SUBJECT MATTER

C07D 471/04(2006.01)i; C07D 401/14(2006.01)i; A61K 31/506(2006.01)i; A61P 35/00(2006.01)i

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)

C07D471/-, C07D401/-, A61K31/-, A61P35/-

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)

CNABS, CNKI, EPODOC, WPI, REGISTRY (STN), CAPLUS (STN): cyclin, dependent, kinase, CDK, imidazole, pyridine, pyrimidine, tumor, tumour, cancer

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2010075074 A1 (ELI LILLY AND COMPANY et al.) 01 July 2010 (2010-07-01) abstract, claims 1, 17-20, description, examples 1-14, page 1, line 30 to page 2, line 2	1-33
X	WO 2016014904 A1 (BETA PHARMA, INC.) 28 January 2016 (2016-01-28) abstract, claims 1, 14-27, description, examples 1-31	1-33
X	WO 2016141881 A1 (MEDSHINE DISCOVERY INC.) 15 September 2016 (2016-09-15) abstract, claims 1, 12, description, page 2, paragraph 2, page 9, paragraphs 3-6	1-33

☐ 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

16 July 2020

Date of mailing of the international search report

29 July 2020

Name and mailing address of the ISA/CN

National Intellectual Property Administration, PRC
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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

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Patent document cited in search report			Publication date (day/month/year)	Patent family member(s)			Publication date (day/month/year)
WO	2010075074	A1	01 July 2010	IL	213350	A	31 August 2014
				EA	018808	B1	30 October 2013
				PA	8852901	A1	27 July 2010
				CN	102264725	B	16 April 2014
				MA	32903	B1	01 December 2011
				TN	2011000293	A1	17 December 2012
				DO	P2011000204	A	30 September 2011
				PE	01072012	A1	20 February 2012
				SI	EP2379528	T1	29 November 2013
				CN	102264725	A	30 November 2011
				US	7855211	B2	21 December 2010
				IL	213350	D0	31 July 2011
				PT	2379528	E	25 November 2013
				CO	6382125	A2	15 February 2012
				JP	2012513396	A	14 June 2012
				CA	2747055	C	14 January 2014
				EP	2379528	A1	26 October 2011
				SG	172331	A1	28 July 2011
				TW	I429635	B	11 March 2014
				ES	2435798	T3	23 December 2013
				KR	101297497	B1	20 August 2013
				NZ	593114	A	30 November 2012
				JO	2885	B1	15 March 2015
				AU	2009330365	B2	12 July 2012
				BR	PI0924183	B1	17 December 2019
				UA	104603	C2	25 February 2014
				TW	201031653	A	01 September 2010
				CA	2747055	A1	01 July 2010
				RS	53061	B	30 April 2014
				HU	S1900014	I1	29 April 2019
				SI	2379528	T1	29 November 2013
				EP	2379528	B1	18 September 2013
				PE	20120107	A1	20 February 2012
				HK	1159630	A1	14 March 2014
				DK	2379528	T3	14 October 2013
				EA	201170872	A1	30 December 2011
				MY	150547	A	30 January 2014
				AU	2009330365	A1	01 July 2010
				ZA	201104505	B	28 November 2012
				JP	5417453	B2	12 February 2014
				US	2010160340	A1	24 June 2010
				AR	074575	A1	26 January 2011
				HR	P20131051	T1	06 December 2013
				CR	20110343	A	14 September 2011
				GT	201100181	A	08 April 2014
				HN	2011001701	A	22 July 2013
				EC	SP11011157	A	29 July 2011
				MX	2011006757	A	20 July 2011
				KR	20110091551	A	11 August 2011
WO	2016014904	A1	28 January 2016	CN	106687454	B8	30 August 2019

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International application No.

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Patent document cited in search report		Publication date (day/month/year)		Patent family member(s)		Publication date (day/month/year)	
				MX	2017000806	A	01 May 2017
				EA	032693	B1	31 July 2019
				TW	201609705	A	16 March 2016
				BR	112017001058	A2	26 June 2018
				US	10239864	B2	26 March 2019
				JP	6490215	B2	27 March 2019
				EA	201790122	A1	31 August 2017
				TW	I675028	B	21 October 2019
				US	9878994	B2	30 January 2018
				AU	2015292425	B2	20 December 2018
				CN	106687454	A	17 May 2017
				KR	20170031241	A	20 March 2017
				US	2018148431	A1	31 May 2018
				CN	106687454	B	21 June 2019
				AP	201709728	A0	31 January 2017
				SG	11201700037Q	A	27 February 2017
				CA	2954298	A1	28 January 2016
				ZA	201700652	B	18 December 2019
				JP	2017522390	A	10 August 2017
				EP	3191469	A1	19 July 2017
				PH	12017500146	A1	29 May 2017
				AP	201709728	D0	31 January 2017
				US	2017210726	A1	27 July 2017
				CN	110117273	A	13 August 2019
				EP	3191469	A4	21 March 2018
				AU	2015292425	A1	16 February 2017
WO	2016141881	A1	15 September 2016	CN	107428731	A	01 December 2017
				CN	107428731	B	05 May 2020
				TW	201639831	A	16 November 2016
				AU	2016228660	B2	07 May 2020
				EP	3269715	A4	08 August 2018
				KR	20180005160	A	15 January 2018
				JP	2018507883	A	22 March 2018
				EP	3269715	A1	17 January 2018
				CA	2978363	A1	15 September 2016
				TW	I688559	B	21 March 2020
				AU	2016228660	A1	19 October 2017
				BR	112017019286	A2	02 May 2018
				RU	2017131559	A	11 April 2019
				US	9969719	B2	15 May 2018
				US	2018072707	A1	15 March 2018
				EP	3269715	B1	13 May 2020
				RU	2017131559	A3	11 April 2019