

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference X21836	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/US2020/043988	International filing date (<i>day/month/year</i>) 29 July 2020 (29-07-2020)	(Earliest) Priority Date (<i>day/month/year</i>) 1 August 2019 (01-08-2019)
Applicant ELI LILLY AND COMPANY		

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 43.6**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:

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/US2020/043988

Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item 1.c of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of a sequence listing:
 - a. ☒ forming part of the international application as filed:
 - ☒ in the form of an Annex C/ST.25 text file.
 - ☐ on paper or in the form of an image file.
 - b. ☐ furnished together with the international application under PCT Rule 13~~ter~~.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. ☐ furnished subsequent to the international filing date for the purposes of international search only:
 - ☐ in the form of an Annex C/ST.25 text file (Rule 13~~ter~~.1(a)).
 - ☐ on paper or in the form of an image file (Rule 13~~ter~~.1(b) and Administrative Instructions, Section 713).
2. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
3. Additional comments:

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2020/043988

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61K38/16 A61P3/10
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)
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, EMBASE, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2019/125929 A1 (LILLY CO ELI [US]) 27 June 2019 (2019-06-27) page 3, line 1 - line 16; claims 1-27; examples 2,3,4,5	1-30
Y	----- US 2018/155407 A1 (BOSSART MARTIN [DE] ET AL) 7 June 2018 (2018-06-07) paragraphs [0010], [0016], [0024], [0138], [0151]	1-30
Y	----- WO 2016/066744 A2 (ZEALAND PHARMA AS [DK]) 6 May 2016 (2016-05-06) page 3, line 30 - page 4 page 5 - page 17	1-30
	----- -/-	



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

7 October 2020

Date of mailing of the international search report

19/10/2020

Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2020/043988

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2016/111971 A1 (LILLY CO ELI [US]) 14 July 2016 (2016-07-14) cited in the application page 3, line 14 - page 4, line 31; examples 1,2 page 9, paragraph 2 -----	1-30
Y	LORENZ MARTIN ET AL: "Recent progress and future options in the development of GLP-1 receptor agonists for the treatment of diabetes", BIOORGANIC & MEDICINAL CHEMISTRY LETTERS, PERGAMON, AMSTERDAM, NL, vol. 23, no. 14, 16 May 2013 (2013-05-16), pages 4011-4018, XP028573319, ISSN: 0960-894X, DOI: 10.1016/J.BMCL.2013.05.022 page 4014, column 2, paragraph 1 - paragraph 3; figure 2a -----	1-30

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2020/043988

Patent document cited in search report		Publication date	Patent family member(s)			Publication date
WO 2019125929	A1	27-06-2019	AR	113487	A1	06-05-2020
			AU	2018388895	A1	04-06-2020
			CA	3084004	A1	27-06-2019
			CN	111511387	A	07-08-2020
			CO	2020006253	A2	29-05-2020
			CR	20200256	A	12-07-2020
			EA	202091284	A1	08-09-2020
			EC	SP20032306	A	31-07-2020
			EP	3727425	A1	28-10-2020
			KR	20200088418	A	22-07-2020
			SG	11202004359Y	A	29-06-2020
			TW	201938187	A	01-10-2019
			WO	2019125929	A1	27-06-2019

US 2018155407	A1	07-06-2018	AR	110301	A1	13-03-2019
			AU	2017369691	A1	18-07-2019
			BR	112019011144	A2	01-10-2019
			CA	3045474	A1	07-06-2018
			CN	109996557	A	09-07-2019
			EP	3548062	A1	09-10-2019
			JP	2019536795	A	19-12-2019
			KR	20190086022	A	19-07-2019
			TW	201833131	A	16-09-2018
			US	2018155407	A1	07-06-2018
			WO	2018100135	A1	07-06-2018

WO 2016066744	A2	06-05-2016	CA	2965732	A1	06-05-2016
			TW	201619191	A	01-06-2016
			WO	2016066744	A2	06-05-2016

WO 2016111971	A1	14-07-2016	AR	103242	A1	26-04-2017
			AU	2016205435	A1	08-06-2017
			BR	112017010596	A2	06-03-2018
			CA	2973352	A1	14-07-2016
			CL	2017001760	A1	16-03-2018
			CN	107207576	A	26-09-2017
			DK	3242887	T3	02-09-2019
			DO	P2017000153	A	15-07-2017
			EA	201791281	A1	30-11-2017
			EA	201892057	A1	28-02-2019
			EA	202090392	A2	31-05-2020
			EP	3242887	A1	15-11-2017
			EP	3597662	A1	22-01-2020
			ES	2747928	T3	12-03-2020
			HR	P20191614	T1	13-12-2019
			HU	E045860	T2	28-01-2020
			JP	6219534	B2	25-10-2017
			JP	6545766	B2	17-07-2019
			JP	6754867	B2	16-09-2020
			JP	2017507124	A	16-03-2017
			JP	2018052933	A	05-04-2018
			JP	2019203000	A	28-11-2019
			KR	20170092661	A	11-08-2017
			KR	20190026967	A	13-03-2019
			LT	3242887	T	11-11-2019
			MA	41315	B1	29-11-2019
			MD	3242887	T2	30-11-2019
			NZ	732000	A	30-11-2018

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2020/043988

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
		PE 20170954 A1	13-07-2017
		PH 12017501252 A1	30-10-2017
		PL 3242887 T3	28-02-2020
		PT 3242887 T	29-10-2019
		SG 11201705603Y A	30-08-2017
		SI 3242887 T1	30-10-2019
		SV 2017005453 A	27-08-2018
		TN 2017000198 A1	19-10-2018
		TW 201636362 A	16-10-2016
		UA 118239 C2	10-12-2018
		US 2016199438 A1	14-07-2016
		WO 2016111971 A1	14-07-2016
		ZA 201703930 B	26-06-2019
