

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL SEARCH REPORT**

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 739259	<b>FOR FURTHER ACTION</b> see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/US2018/036084	International filing date ( <i>day/month/year</i> ) 5 June 2018 (05-06-2018)	(Earliest) Priority Date ( <i>day/month/year</i> ) 14 June 2017 (14-06-2017)
Applicant  THE UNITED STATES OF AMERICA, AS REPRESENTED BY...		

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. 1  
 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/US2018/036084

## 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 13ter.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 13ter.1(a)).
    - on paper or in the form of an image file (Rule 13ter.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/US2018/036084

A. CLASSIFICATION OF SUBJECT MATTER  
INV. C12Q1/6886  
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)  
C12Q  
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, WPI Data, BIOSIS, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2015/069790 A1 (US HEALTH [US]; BRITISH COLUMBIA CANCER AGENCY [CA]; UNIV ARIZONA STAT) 14 May 2015 (2015-05-14) cited in the application abstract; claim 1; examples 1-2 paragraph [0054]; table 2	1-7
A	WO 2005/024043 A2 (NAT INST HEALTH [US]; STAUDT LOUIS [US]; WRIGHT GEORGE [US]; TAN BRUCE) 17 March 2005 (2005-03-17) abstract; claims 39-95 pages 123-165; examples 13-17; tables 36-39, 45, 46, 56	1-7
	----- -/--	

Further documents are listed in the continuation of Box C.

See patent family annex.

\* Special categories of cited documents :

<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"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</p> <p>"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</p> <p>"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</p> <p>"&amp;" document member of the same patent family</p>
---	---

Date of the actual completion of the international search <b>3 September 2018</b>	Date of mailing of the international search report <b>11/09/2018</b>
--	---

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 <b>Aguilera, Miguel</b>
--	---

INTERNATIONAL SEARCH REPORT

International application No  
PCT/US2018/036084

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>A. MOTTOK ET AL: "MOLECULAR CLASSIFICATION OF PRIMARY MEDIASTINAL LARGE B CELL LYMPHOMA USING FORMALIN-FIXED, PARAFFIN-EMBEDDED TISSUE SPECIMENS - AN LLMP PROJECT", HEMATOLOGICAL ONCOLOGY, vol. 35, 7 June 2017 (2017-06-07), pages 59-60, XP055495961, US ISSN: 0278-0232, DOI: 10.1002/hon.2437_46 abstract</p> <p style="text-align: center;">-----</p>	1-7
A	<p>D. W. SCOTT ET AL: "Determining cell-of-origin subtypes of diffuse large B-cell lymphoma using gene expression in formalin-fixed paraffin-embedded tissue", BLOOD, vol. 123, no. 8, 20 February 2014 (2014-02-20), pages 1214-1217, XP055495536, US ISSN: 0006-4971, DOI: 10.1182/blood-2013-11-536433 abstract; figure 1A</p> <p style="text-align: center;">-----</p>	1-7
A	<p>ROSENWALD A ET AL: "Molecular diagnosis of primary mediastinal B cell lymphoma identifies a clinically favorable subgroup of diffuse large B cell lymphoma related to Hodgkin lymphoma", THE JOURNAL OF EXPERIMENTAL MEDICINE, ROCKEFELLER UNIVERSITY PRESS, US, vol. 198, no. 6, 15 September 2003 (2003-09-15), pages 851-862, XP002396795, ISSN: 0022-1007, DOI: 10.1084/JEM.20031074 abstract; figure 2A</p> <p style="text-align: center;">-----</p>	1-7
A	<p>LENZ G ET AL: "Stromal gene signatures in large-B-cell lymphomas", NEW ENGLAND JOURNAL OF MEDICINE, THE - NEJM, MASSACHUSETTS MEDICAL SOCIETY, US, vol. 359, no. 22, 27 November 2008 (2008-11-27), pages 2313-2323, XP002551776, ISSN: 1533-4406, DOI: 10.1056/NEJM0A0802885 abstract; figure 2</p> <p style="text-align: center;">-----</p> <p style="text-align: center;">-/--</p>	1-7

## INTERNATIONAL SEARCH REPORT

International application No  
PCT/US2018/036084

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>M. H. VELDMAN-JONES ET AL: "Reproducible, Quantitative, and Flexible Molecular Subtyping of Clinical DLBCL Samples Using the NanoString nCounter System", CLINICAL CANCER RESEARCH, vol. 21, no. 10, 9 October 2014 (2014-10-09), pages 2367-2378, XP055495781, US ISSN: 1078-0432, DOI: 10.1158/1078-0432.CCR-14-0357 abstract Supplemental Table 1 &amp; Veldman-Jones ET AL: "Supplemental Table 1", Clinical Cancer Research 21(10): 2367-2378 (2014), 9 January 2014 (2014-01-09), XP055495789, Retrieved from the Internet: URL:<a href="http://clincancerres.aacrjournals.org/highwire/filestream/131853/field_highwire_adjunct_files/5/126978_2_supp_2633385_nfzhbv.pptx">http://clincancerres.aacrjournals.org/highwire/filestream/131853/field_highwire_adjunct_files/5/126978_2_supp_2633385_nfzhbv.pptx</a> [retrieved on 2018-07-27] the whole document -----</p>	1-7

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2018/036084

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
WO 2015069790	A1	14-05-2015	AU 2014346788 A1	26-05-2016
			CA 2929826 A1	14-05-2015
			CN 106232831 A	14-12-2016
			EP 3066215 A1	14-09-2016
			JP 2017502686 A	26-01-2017
			KR 20160127713 A	04-11-2016
			US 2016283653 A1	29-09-2016
			WO 2015069790 A1	14-05-2015
-----				
WO 2005024043	A2	17-03-2005	AU 2004271192 A1	17-03-2005
			CA 2537254 A1	17-03-2005
			EP 1664762 A2	07-06-2006
			EP 2157524 A2	24-02-2010
			US 2005164231 A1	28-07-2005
			WO 2005024043 A2	17-03-2005
-----				