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(71) Applicant: **MODERNATX, INC.** [US/US]; 200 Technology Square, Cambridge, MA 02139 (US).

(72) Inventors: **HOGUE, Stephen**; 200 Technology Square, Cambridge, MA 02139 (US). **CIARAMELLA, Giuseppe**; 1 Hawes Road, Sudbury, MA 01776 (US).

(74) Agent: **LOCKHART, Helen C.**; Wolf, Greenfield & Sacks, P.C., 600 Atlantic Avenue, Boston, MA 02210-2206 (US).

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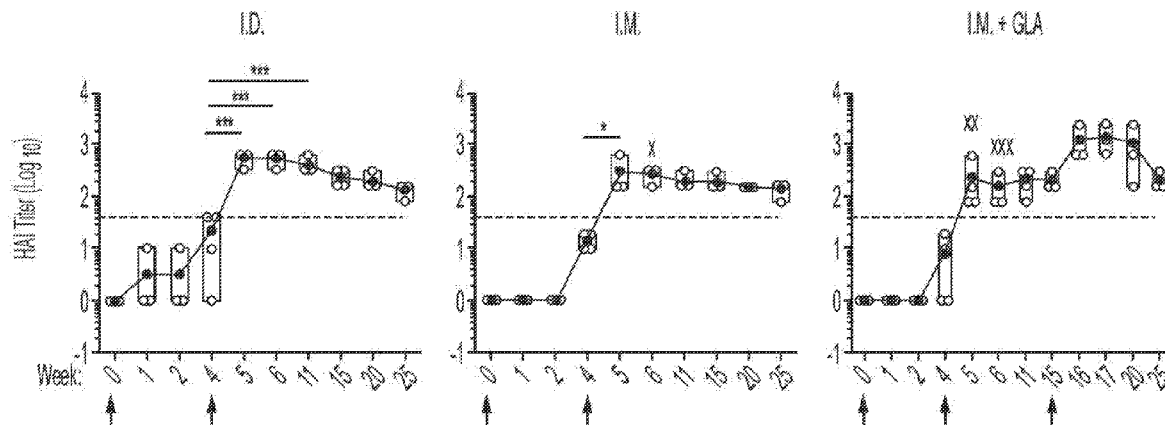


FIG. 1A

(57) Abstract: High quality vaccines are identified and formulated based on a threshold differential T-cell activation potential. The vaccines are mRNA vaccines formulated in a carrier, wherein the mRNA encodes an antigen.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

**A61K 31/7088 (2006.01) A61K 39/145 (2006.01) A61K 9/51 (2006.01) G01N 33/50 (2006.01) A61P 31/16 (2006.01)
A61K 47/69 (2017.01)**

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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)

PATENW (includes WPIAP, EPODOC, all full text databases in English), MEDLINE, BIOSIS, EMBASE, CAPLUS, and keywords (influenza, RNA, ORF, vaccine, lipo-nano-particle, dTCAP, MDSC, T-follicular helper cell, lymph node, avidity, efficacy, efficiency, ICOS, CD278, PD-1, CXCR3, A61K2039, A61K39/145, A61K9/59 and like term)

PATENTSCOPE, PUBMED, internal databases provided by IP AUSTRALIA (PAMS NOSE and INTESS), and keywords (Moderna, ModernaTx, Ciaramella, Hoge)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Documents are listed in the continuation of Box C		



Further documents are listed in the continuation of Box C



See patent family annex

* "A"	Special categories of cited documents: document defining the general state of the art which is not considered to be of particular relevance	"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
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Name and mailing address of the ISA/AU

AUSTRALIAN PATENT OFFICE
PO BOX 200, WODEN ACT 2606, AUSTRALIA
Email address: pct@ipaaustralia.gov.au

Authorised officer

Nathalie Tochon-Danguy
AUSTRALIAN PATENT OFFICE
(ISO 9001 Quality Certified Service)
Telephone No. +61262833101

INTERNATIONAL SEARCH REPORT		International application No.
C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		PCT/US2018/046974
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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X Y	WO 2016/176330 A1 (THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA & ACUITAS THERAPEUTICS INC.) 03 November 2016 Examples 2-3, 5, 15, 16, pages 47-48 pages 129, 130, 132, 133, 135, 136, Figures 5, 17, 18, 23	1-57, 70 71
Y	BENTEBIBEL S.-E. et al., "ICOS+PD-1+CXCR3+ T follicular helper cells contribute to the generation of high-avidity antibodies following influenza vaccination", SCIENTIFIC REPORTS, 2016, vol. 6, page 26494 DOI: 10.1038/srep26494. Downloaded from https://www.nature.com/articles/srep26494 abstract, pages 2-3, Figure 1	71
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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

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This Annex lists known patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

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INTERNATIONAL SEARCH REPORT

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		EP 3452086 A1	13 Mar 2019

End of Annex