

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference ZP000393A	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/US2022/074574	International filing date (<i>day/month/year</i>) 5 August 2022 (05-08-2022)	(Earliest) Priority Date (<i>day/month/year</i>) 6 August 2021 (06-08-2021)
Applicant ZOETIS SERVICES LLC		

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 5 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. 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

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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.
 - b. ☐ furnished subsequent to the international filing date for the purposes of international search (Rule 13*ter*.1(a)).

☐ accompanied by a statement to the effect that the sequence listing does not go beyond the disclosure in the international application as filed.
2. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, this report has been established to the extent that a meaningful search could be carried out without a WIPO Standard ST.26 compliant sequence listing.
3. Additional comments:

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A. CLASSIFICATION OF SUBJECT MATTER

INV. A61K39/08 A61K39/02
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

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2020/102717 A2 (MATRIVAX INC [US]; KILLEEN KEVIN [US]; GRIFFIN THOMAS [US]) 22 May 2020 (2020-05-22) paragraphs [0003], [0014], [0015], [0016], [0019], [0021] paragraphs [0017], [0018], [0030], [0031] paragraphs [0035] - [0038], [0078], [0100], [0101] paragraphs [0104], [0108], [0154], [0155] ----- -/--	1-27



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

22 December 2022

Date of mailing of the international search report

04/01/2023

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2010/086353 A1 (INTERVET INT BV [NL]; UNIV BERN [CH] ET AL.) 5 August 2010 (2010-08-05)	1, 2, 5, 6, 26, 27
Y	page 1, last paragraph – page 2, paragraph 2 page 3, lines 8-10 page 4, paragraph 1 page 9, lines 19-29 page 12, last paragraph – page 13, paragraph 1 claims 10, 11	1-27
Y	----- FREY JOACHIM ET AL: "Cytotoxin CctA, a major virulence factor of Clostridium chauvoei conferring protective immunity against myonecrosis", VACCINE, vol. 30, no. 37, 27 June 2012 (2012-06-27) , pages 5500-5505, XP028931054, ISSN: 0264-410X, DOI: 10.1016/J.VACCINE.2012.06.050 abstract page 5501, column 1, last paragraph	1-27
Y	----- ABDOLMOHAMMADI KHIAB LIDA ET AL: "Vaccination against pathogenic clostridia in animals: a review", TROPICAL ANIMAL HEALTH AND PRODUCTION, SPRINGER NETHERLANDS, DORDRECHT, vol. 1-2753, no. 2, 23 April 2021 (2021-04-23), XP037558933, ISSN: 0049-4747, DOI: 10.1007/S11250-021-02728-W [retrieved on 2021-04-23] page 4, column 1, last paragraph page 4, column 2, paragraph 3 page 7, column 1, paragraph 2 page 8, column 2, paragraph 4 page 9, column 2, paragraph 3	1-27

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Information on patent family members

International application No

PCT/US2022/074574

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2020102717 A2	22-05-2020	CN 113329766 A	31-08-2021
		EP 3880240 A2	22-09-2021
		JP 2022513077 A	07-02-2022
		US 2021369831 A1	02-12-2021
		WO 2020102717 A2	22-05-2020

WO 2010086353 A1	05-08-2010	AR 075195 A1	16-03-2011
		EP 2391640 A1	07-12-2011
		US 2011280900 A1	17-11-2011
		UY 32403 A	31-08-2010
		WO 2010086353 A1	05-08-2010
