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(54) Title: COMPOSITIONS AND METHODS FOR DETECTION OF EHRLICHIA CANIS AND EHRLICHIA CHAFFEENSIS ANTIBODIES

(57) Abstract: The invention provides methods and compositions for the detection of *Ehrlichia canis* and *Ehrlichia chaffeensis* antibodies and antibody fragments.

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US02/01395

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01N33/68 C07K7/08 C07K14/29 C07K16/12

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)

IPC 7 G01N C07K

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 practical, 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.
X	MCBRIDE J W ET AL: "MOLECULAR CLONING OF THE GENE FOR A CONSERVED MAJOR IMMUNOREACTIVE 28-KILODALTON PROTEIN OF EHRlichia CANIS: A POTENTIAL SERODIAGNOSTIC ANTIGEN" CLINICAL AND DIAGNOSTIC LABORATORY IMMUNOLOGY, AMERICAN SOCIETY FOR MICROBIOLOGY, US, vol. 6, no. 3, May 1999 (1999-05), pages 392-399, XP002905766 ISSN: 1071-412X the whole document --- -/--	1-34

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in 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 document 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.

Z document member of the same patent family

Date of the actual completion of the international search

17 February 2003

Date of mailing of the international search report

28.02.2003

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INTERNATIONAL SEARCH REPORT

 Internat lication No
 PCT/US 92/01395

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	NORIO OHASHI ET AL.: "Cloning and characterization of multigenes encoding the immunodominant 30-Kilodalton Major Outer Membrane proteins of Ehrlichia canis and application of the recombinant protein for serodiagnosis " JOURNAL OF CLINICAL MICROBIOLOGY, vol. 36, no. 9, September 1998 (1998-09), pages 2671-2680, XP002231362 the whole document	1-34
A	WO 99 13720 A (THE OHIO STATE UNIVERSITY) 25 March 1999 (1999-03-25) page 1, paragraph 6 -page 3, paragraph 4	1-34

INTERNATIONAL SEARCH REPORT

Intern application No.
US 02/01395

Box I Observations where certain claims were found unsearchable (Continuation of item 1 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.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claims 29-33 are directed to a diagnostic method practised on the human/animal body, the search has been carried out and based on the alleged effects of the compounds.
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).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☒ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

1-34 partially
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-34 partially

Polypeptide of sequence SEQ ID NO:1 and use for detecting antibodies to Ehrlichia; device and article of manufacture containing the polypeptide; monoclonal antibody binding to an epitope of the polypeptide

2. Claims: 1-34 partially

Idem as subject 1 for sequence SEQ ID NO:2

3. Claims: 1-34 partially

Idem as subject 1 for sequence SEQ ID NO:3

4. Claims: 1-34 partially

Idem as subject 1 for sequence SEQ ID NO:4

5. Claims: 1-34 partially

Idem as subject 1 for sequence SEQ ID NO:5

6. Claims: 1-34 partially

Idem as subject 1 for sequence SEQ ID NO:6

7. Claims: 1-34 partially

Idem as subject 1 for sequence SEQ ID NO:7

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US92/01395

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9913720	A	25-03-1999	
		AU 748357 B2	06-06-2002
		AU 9571998 A	05-04-1999
		CA 2304256 A1	25-03-1999
		EP 1026949 A1	16-08-2000
		WO 9913720 A1	25-03-1999
