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[Continued on next page]

(54) Title: NOVEL COMPOSITIONS AND METHODS FOR THE TREATMENT OF IMMUNE RELATED DISEASES

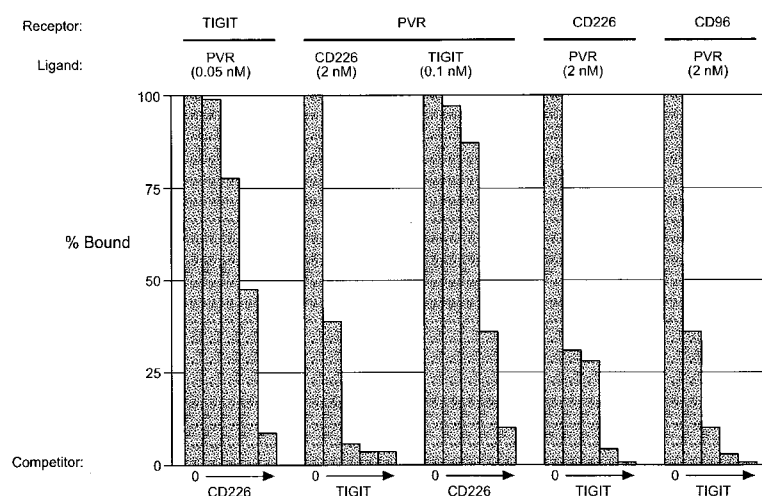


FIG. 6

(57) Abstract: The present invention relates to compositions and methods of using those compositions for the diagnosis and treatment of immune related diseases.



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- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*
- *with sequence listing part of description (Rule 5.2(a))*
- (88) Date of publication of the international search report:**
10 December 2009

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2009/039868

A. CLASSIFICATION OF SUBJECT MATTER

INV. G01N33/50 G01N33/564 G01N33/569 C07K14/705 C07K16/28
A61P37/02

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)

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, BIOSIS, EMBASE, WPI Data, Sequence Search

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2004/024068 A (GENENTECH INC [US]) 25 March 2004 (2004-03-25) the whole document	1,8-13, 34
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☒ 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 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)
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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

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23/10/2009

Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2009/039868

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	OTA T ET AL: "COMPLETE SEQUENCING AND CHARACTERIZATION OF 21,243 FULL-LENGTH HUMAN CDNAS" NATURE GENETICS, NATURE PUBLISHING GROUP, NEW YORK, US, vol. 36, no. 1, 1 January 2004 (2004-01-01), pages 40-45, XP008055982 ISSN: 1061-4036 abstract	
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X	WO 2004/074324 A (XERION PHARMACEUTICALS AG [DE]; UNIV TUFTS [US]; UNGER CHRISTINE MARGA) 2 September 2004 (2004-09-02) the whole document	13,25-32
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/039868

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 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:
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 No. III Observations where unity of invention is lacking (Continuation of item 3 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 allsearchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
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.:
1-21, 25-32, 34, 35
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 and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☒ 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. claim: 1

A method for determining whether a test immune cell is activated or "normal"

2. claims: 2-5

An isolated polypeptide comprising defined amino acids in certain positions.

3. claims: 6,7,13

Method for identifying members of the TLP protein family

4. claims: 8-12

Agent specifically interacting with conserved regions in TLP family members

5. claims: 14-21,36-38 (fully), 25-32 (partially)

Method of modulating immune system function and anti-TIGIT antibodies and method of modulating immune cell function by modulating TIGIT

6. claims: 22-24

Method for modulating a CD226- or CD96-PVR interaction

7. claims: 25-32 (all partially)

Method of modulating immune cell function by modulating PVR

8. claim: 33

Method of stimulating ERK phosphorylation

9. claims: 34,35

Method of diagnosing/assessing an immune-related disease

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2009/039868

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