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Published:

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(88) Date of publication of the international search report:

3 September 2009

(54) Title: ANTIBODIES THAT BIND HUMAN DENDRITIC AND EPITHELIAL CELL 205 (DEC-205)

(57) Abstract: Isolated monoclonal antibodies which bind to human DEC-205 and related antibody-based compositions and molecules are disclosed. Also disclosed are pharmaceutical compositions comprising the antibodies, as well as therapeutic and diagnostic methods for using the antibodies.



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## INTERNATIONAL SEARCH REPORT

International application No

PCT/US2008/082745

## A. CLASSIFICATION OF SUBJECT MATTER

INV. A61K39/395 A61P35/00 C07K16/28

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 A61P 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

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2004/035619 A (CENTENARY INST CANCER MEDICINE [AU]; BRITTON WARWICK [AU]; DEMANGEL CA) 29 April 2004 (2004-04-29) page 40 - page 48 figure 3A  ----- -/--	1-4, 6-84

 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)
- \*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

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## INTERNATIONAL SEARCH REPORT

International application No

PCT/US2008/082745

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>BADIEE ET AL: "Enhanced delivery of immunoliposomes to human dendritic cells by targeting the multilectin receptor DEC-205"  VACCINE, BUTTERWORTH SCIENTIFIC.  GUILDFORD, GB,  vol. 25, no. 25, 30 May 2007 (2007-05-30),  pages 4757-4766, XP022098619  ISSN: 0264-410X  figures 3-6  page 4758, right-hand column, paragraph 4  - page 4759, left-hand column, paragraph 1  page 4761  page 4765, left-hand column, paragraph 3 -  right-hand column, paragraph 2</p>	1-4,6-84
X	<p>GUO M ET AL: "A monoclonal antibody to the DEC-205 endocytosis receptor on human dendritic cells"  HUMAN IMMUNOLOGY, NEW YORK, NY, US,  vol. 61, no. 8,  1 August 2000 (2000-08-01), pages 729-738,  XP002319045  ISSN: 0198-8859  page 730, right-hand column, paragraph 2  page 732, right-hand column, paragraph 2  figures 2,4-6</p>	1-4,6-84
X	<p>US 2005/186612 A1 (HART DEREK N [NZ])  25 August 2005 (2005-08-25)  paragraph [0114]  figure 9</p>	1-4,6-84
X	<p>WO 2004/074432 A (MEDAREX INC [US]; KELER TIBOR [US]; ENDRES MICHAEL [US]; HE LIZHEN [US])  2 September 2004 (2004-09-02)  page 34, line 16 - page 39, line 17  figures 9,14</p>	1-4,6-84
A	<p>WO 2005/018610 A (LIPOTEK PTY LTD [AU]; ALTIN JOSEPH [AU]; PARISH CHRISTOPHER RICHARD [A])  3 March 2005 (2005-03-03)  page 20, line 15 - page 23, line 20</p>	1-4,6-84
A	<p>US 2004/258688 A1 (HAWIGER DANIEL [US] ET AL)  23 December 2004 (2004-12-23)  paragraphs [0356], [0378] - [0389]  figures 10-12</p>	1-4,6-84

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2008/082745

## 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 reportcovers only those claims for which fees were paid, specifically claims Nos.:
  
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.:

15, 24 and 28 (all fully), 1-4, 6-14, 16-23  
25-27 and 29-84 (all partially)

### 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. claims: 15, 24, and 28 (all fully), 1-4,6-14,16-23,25-27 and 29-84 (all partially)

An isolated monoclonal antibody which binds to human DEC-205 and comprises heavy and light chain variable region CDR1, CDR2 and CDR3 sequences selected from the group consisting of a heavy chain variable region CDR1 comprising SEQ ID NO.29, a heavy chain variable region CDR2 comprising SEQ ID NO.30, a heavy chain variable region CDR3 comprising SEQ ID NO.31, a light chain variable region CDR1 comprising SEQ ID NO.35, a light chain variable region CDR2 comprising SEQ ID NO.36, and a light chain variable region CDR3 comprising SEQ ID NO.37. An isolated monoclonal antibody which binds to human DEC-205 and comprises a heavy and light chain variable region comprising SEQ ID NOs: 28 and 34 respectively.

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2. claims: 1-4,6-14,16-23,25-27 and 29-84 (all partially)

Idem as invention 1, wherein the heavy and light chain CDR1-3 comprise SEQ ID NOs:5-7 and 11-13 respectively, and the heavy and light chain variable regions comprise SEQ ID NOs: 4 and 10 respectively.

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3. claims: 1-4,6-14,16-23,25-27 and 29-84 (all partially)

Idem as invention 1, wherein the heavy and light chain CDR1-3 comprise SEQ ID NOs:17-19 and 23-25 respectively, and the heavy and light chain variable regions comprise SEQ ID NOs: 16 and 22 respectively.

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4. claims: 1-4,6-14,16-23,25-27 and 29-84 (all partially)

Idem as invention 1, wherein the heavy and light chain CDR1-3 comprise SEQ ID NOs:41-43 and 47-49 respectively, and the heavy and light chain variable regions comprise SEQ ID NOs: 40 and 46 respectively.

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5. claims: 1-4,6-14,16-23,25-27 and 29-84 (all partially)

Idem as invention 1, wherein the heavy and light chain CDR1-3 comprise SEQ ID NOs:53-55 and 59-61 respectively, and the heavy and light chain variable regions comprise SEQ ID NOs: 52 and 58 respectively.

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6. claims: 1-4,6-14,16-23,25-27 and 29-84 (all partially)

FURTHER INFORMATION CONTINUED FROM PCT/SA/ 210

Idem as invention 1, wherein the heavy and light chain CDR1-3 comprise SEQ ID NOs:77-79 and 83-85 respectively, and the heavy and light chain variable regions comprise SEQ ID NOs: 76 and 82 respectively.

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7. claims: 1-4,6-9,12,13,16,21,25,29,31-33,35-84 (all partially)

An isolated monoclonal antibody which binds to human DEC-205 and comprises a heavy chain variable region comprising SEQ ID NO: 88.

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8. claims: 1-3,5-9,12,13,16,21,25,29,31-33,35-84 (all partially)

An isolated monoclonal antibody which binds to human DEC-205 and comprises a heavy chain variable region comprising SEQ ID NO: 64.

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9. claims: 1-3,5-9,12,13,16,21,25,29,31-33,35-84 (all partially)

An isolated monoclonal antibody which binds to human DEC-205 and comprises a heavy chain variable region comprising SEQ ID NO: 70.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2008/082745

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2004035619	A	AU 2003271430 A1	04-05-2004
US 2005186612	A1	NONE	
WO 2004074432	A	AU 2004213749 A1	02-09-2004
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		EP 1594533 A2	16-11-2005
		JP 2006516637 T	06-07-2006
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