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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))
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24 June 2010



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(54) Title: ANTIBODIES DIRECTED TO CD105 AND USES THEREOF

(57) Abstract: The invention relates to targeted binding agents against CD105 and uses of such agents. More specifically, the invention relates to fully human monoclonal antibodies directed to CD105. The described targeted binding agents are useful in the treatment of diseases associated with the activity and/or overproduction of CD105 and as diagnostics.

INTERNATIONAL SEARCH REPORT

International application No

PCT/GB2009/051216

A. CLASSIFICATION OF SUBJECT MATTER
 INV. C07K16/28 A61K39/395

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)
 C07K 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 practical, search terms used)

EPO-Internal, BIOSIS, Sequence Search, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 190 660 B1 (SEON BEN K [US]) 20 February 2001 (2001-02-20) claim 1; figures 4,5	1-38
X	TAKAHASHI N ET AL: "Antiangiogenic therapy of established tumors in human skin/severe combine immunodeficiency mouse chimeras by anti-endoglin (CD105) monoclonal antibodies, and synergy between anti-endoglin antibody and cyclophosphamide" CANCER RESEARCH, AMERICAN ASSOCIATION FOR CANCER RESEARCH, BALTIMORE, MD., US, vol. 61, no. 21, 1 November 2001 (2001-11-01), pages 7846-7854, XP008090433 ISSN: 0008-5472 figures 3-5	1-38

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/GB2009/051216

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>TSUJIE MASANORI ET AL: "Anti-tumor activity of an anti-endoglin monoclonal antibody is enhanced in immunocompetent mice" INTERNATIONAL JOURNAL OF CANCER, vol. 122, no. 10, May 2008 (2008-05), pages 2266-2273, XP002555257 ISSN: 0020-7136 figures 4,5</p>	1-38
A	<p>VOLKEL T ET AL: "Isolation of endothelial cell-specific human antibodies from a novel fully synthetic scFv library" BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, ACADEMIC PRESS INC. ORLANDO, FL, US, vol. 317, no. 2, 30 April 2004 (2004-04-30), pages 515-521, XP004500241 ISSN: 0006-291X figure 4B</p>	1-38
A	<p>MATSUNO F ET AL: "Induction of lasting complete regression of preformed distinct solid tumors by targeting the tumor vasculature using two new anti-endoglin monoclonal antibodies" CLINICAL CANCER RESEARCH, THE AMERICAN ASSOCIATION FOR CANCER RESEARCH, US, vol. 5, no. 2, 1 February 1999 (1999-02-01), pages 371-382, XP002975037 ISSN: 1078-0432 the whole document</p>	1-38

INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB2009/051216

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 all searchable 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.:

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.:

see ANNEX

- 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: 1 (partially), 2 (partially), 3 (completely), 4-38 (partially)

Claims relating to antibodies against CD105 wherein the antibody binds to human CD105 with a KD of less than 1nM

2. claims: 1, 2, 4-38 (all partially)

Claims relating to antibodies against CD105 wherein the antibody inhibits cell proliferation of HUVEC cells by greater than 5%, increases SMAD2 phosphorylation or exhibits anti-angiogenic activity

3. claims: 1, 2, 4-38 (all partially)

Claims relating to antibodies against CD105 wherein the antibody exhibits ADCC activity

INTERNATIONAL SEARCH REPORT
information on patent family members

International application No
PCT/GB2009/051216

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6190660	B1	NONE	