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- with international search report
- with sequence listing part of description published separately in electronic form and available upon request from the International Bureau

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6 March 2003

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHODS OF THERAPY FOR B-CELL MALIGNANCIES USING ANTAGONIST ANTI-CD40 ANTIBODIES

(57) Abstract: Methods of therapy for B-cell malignancies are provided. The methods comprise administering a therapeutically effective amount of an antagonist anti-CD40 antibody or antigen-binding fragment thereof to a patient in need thereof. The antagonist anti-CD40 antibody or antigen-binding fragment thereof is free of significant agonist activity when the antibody binds a CD40 antigen on a normal human B cell, exhibits antagonist activity when the antibody binds a CD40 antigen on a malignant human B cell, and can exhibit antagonist activity when the antibody binds a CD40 antigen on a normal human B cell. Antagonist activity of the anti-CD40 antibody or antigen-binding fragment thereof beneficially inhibits proliferation and/or differentiation of malignant human B cells.



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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 01/30963

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61P35/00 A61K39/395 //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)
IPC 7 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)

BIOSIS, EMBASE, WPI Data, PAJ, EPO-Internal, 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	P. KARLSSON ET AL.: "Selection of human single chain antibodies against CD40." IMMUNOLOGY LETTERS, vol. 73, no. 2-3, September 2000 (2000-09), page 161 XP001073504 Amsterdam, The Netherlands abstract 358	1-17
A	WO 96 34096 A (CELL GENESYS INC.) 31 October 1996 (1996-10-31) claims 1,14,17,18,24,25 --- -/--	1-17

☒ 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.
- * & * document member of the same patent family

Date of the actual completion of the international search

30 September 2002

Date of mailing of the international search report

15/10/2002

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INTERNATIONAL SEARCH REPORT

Int onal Application No
PCT/US 01/30963

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	D. LONGO ET AL: "Inhibition of human B-cell lymphoma growth by soluble recombinant human CD40 ligand (Meeting abstract)." THE FASEB JOURNAL, vol. 9, no. 3, 1995, page A205 XP002215207 Bethesda, MD, USA abstract 1195 -----	1-17

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 01/30963

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 1-17 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
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:

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.:
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.

INTERNATIONAL SEARCH REPORT

In **ional Application No**

FCI/US 01/30963

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
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