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(54) Title: METAL RADIONUCLIDE LABELLED CD-30 ANTIBODIES AND USES THEREOF

(57) Abstract: The invention relates to metallic radionuclide containing immunoconjugates. The immunoconjugates bind specifically to the CD30 molecule. Both diagnostic and therapeutic uses of the immunoconjugates are described. The preferred immunoconjugates are monoclonal antibodies to which ^{111}In or ^{90}Y is bound via a chelator.

INTERNATIONAL SEARCH REPORT

ational Application No
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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61K51/10

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 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, CHEM ABS Data, BIOSIS, MEDLINE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 94 04189 A (MEDAC KLINISCHE SPEZIALPRAEP ;STEIN HARALD (DE); FALINI BRUNANGELO) 3 March 1994 (1994-03-03) page 5, paragraph 5; claims 1,3-5 ---	1-20
X	HORN-LOHRENS O ET AL: "Shedding of the soluble form of CD30 from the Hodgkin-analogous cell line L540 is strongly inhibited by a new CD30-specific antibody (Ki-4)." INTERNATIONAL JOURNAL OF CANCER. JOURNAL INTERNATIONAL DU CANCER. UNITED STATES 8 FEB 1995, vol. 60, no. 4, 8 February 1995 (1995-02-08), pages 539-544, XP008008865 ISSN: 0020-7136 abstract --- -/--	1

[X] Further documents are listed in the continuation of box C.

[X] 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	Date of mailing of the international search report
8 October 2002	22/10/2002

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Berte, M

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 91 07437 A (PFREUNDSCHUH MICHAEL ;PARKER DAVID L (US)) 30 May 1991 (1991-05-30) claims; tables II,VI	1-20
Y	NIKULA TUOMO K ET AL: "A Rapid, Single Vessel Method for Preparation of Clinical Grade Ligand Conjugated Monoclonal Antibodies." NUCLEAR MEDICINE AND BIOLOGY, vol. 22, no. 3, 1995, pages 387-390, XP004051802 ISSN: 0969-8051 cited in the application page 387, column 2, paragraph 2 figure 1	1-20
A	WO 91 07941 A (IMP CANCER RES TECH ;PARKER DAVID L (US)) 13 June 1991 (1991-06-13) claims	
P,X	RENNER, CHRISTOPH ET AL: "Targeting properties of an anti-CD16/anti- CD30 bispecific antibody in an in vivo system" CANCER IMMUNOLOGY IMMUNOTHERAPY (2001), 50(2), 102-108 , XP002215906 abstract page 103, column 2, paragraph 3 - paragraph 4	1-20
P,A	HEEGER S ET AL: "Alpha-radioimmunotherapy of B-cell non Hodgkin's lymphoma: Preclinical evaluation of 213Bi-labeled CD19- and CD20-CHX-A''-DTPA conjugates." ONKOLOGIE, vol. 23, no. Sonderheft 7, October 2000 (2000-10), page 47 XP008008867 Annual Meeting of the German and Austrian Society for Hematology and Oncology;Graz, Austria; October 21-25, 2000 ISSN: 0378-584X 0174 abstract	1-20

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.1

Although claims 11-14 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 compound/composition.
Although claims 15-20 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.

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ternational application No.
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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. [X] Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

see FURTHER INFORMATION sheet PCT/ISA/210

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

Information on patent family members

International Application No
PCT/US 01/26335

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9404189 A	03-03-1994	AU 4953693 A	15-03-1994
		WO 9404189 A1	03-03-1994
WO 9107437 A	30-05-1991	AU 6909191 A	13-06-1991
		WO 9107437 A2	30-05-1991
WO 9107941 A	13-06-1991	US 5165923 A	24-11-1992
		AU 6905391 A	26-06-1991
		EP 0502101 A1	09-09-1992
		WO 9107941 A2	13-06-1991