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(74) Agents: AUERBACH, Jeffrey, I. et al.; Edell, Shapiro & Finnan, LLC, 1901 Research Blvd., Suite 400, Rockville, MD 20850 (US).

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(71) Applicant (for all designated States except US):
MACROGENICS, INC. [US/US]; 1500 East Gude Drive, Rockville, MD 20850 (US).

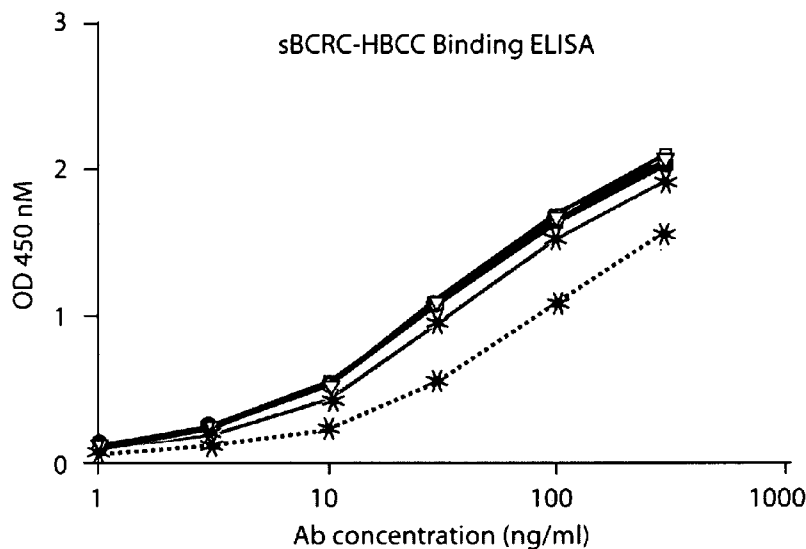
(72) Inventors; and

(75) Inventors/Applicants (for US only): JOHNSON, Leslie, S. [US/US]; 14411 Poplar Hill Rd., Damestown, MD 20874 (US). HUANG, Ling [US/US]; 8210 Moorland Lane, Bethesda, MD 20817 (US).

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[Continued on next page]

(54) Title: BCR-COMPLEX-SPECIFIC ANTIBODIES AND METHODS OF USING SAME



(57) Abstract: This invention relates to chimeric and humanized antibodies that specifically bind the BCR complex, and particularly chimeric and humanized antibodies to the BCR complex. The invention also relates to methods of using the antibodies and compositions comprising them in the diagnosis, prognosis and therapy of diseases such as cancer, autoimmune diseases, inflammatory disorders, and infectious disease.

Figure 6

OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG). — *with sequence listing part of description (Rule 5.2(a))*

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- *with international search report (Art. 21(3))*
- *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))*

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 09/38171

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - C07K 16/00; C12P 21/08 (2010.01)

USPC - 530/387.1; 530/387.3; 424/133.1

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(8) - C07K 16/00; C12P 21/08 (2010.01)

USPC - 530/387.1; 530/387.3; 424/133.1

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 practicable, search terms used)

PubWEST (PGPB, USPT, USOC, EPAB, JPAB); PubMed and Google Scholar.

Search Terms: BCR complex, BCC, BCC1, BCC2, antibody, hBCC1, hBCC2, chBCC1, chBCC2, Kabat, B cell receptor complex, variant, Fc, 243, F243L, B cell antigen receptor, B cell receptor, humanized, CD79, CD79a, CD79b, Ab, anti-BCR, 37, leu, leucine

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y --- A	US 6,696,550 B2 (LAROSA et al.) 24 February 2004 (24.02.2004) SEQ ID NO: 12; col 2, ln 55-63; col 3, ln 37-67; col 4, ln 8-27; col 56, ln 7-53; col 57, ln 7-20, 41-48, 59-67; col 58, ln 1-17.	1-2, 10-11, 14-17 ----- 5, 8, 12
Y --- A	POLSON et al., Antibody-Drug Conjugates Targeted to CD79 for the Treatment of Non-Hodgkin Lymphoma. Blood. 15 July 2007, Vol 110, No 2, pages 616-623: table 1; abstract; pg 616, col 2, para 3; pg 617, col 1, para 2-3; pg 618, col 2, para 4; pg 619, col 1, para 1.	1-2, 6-7, 9-11, 14-17 ----- 5, 8, 12
Y --- A	US 2004/0235065 A1 (HANSEN et al.) 25 November 2004 (25.11.2004) para [0002], [0045], [0047], [0060], [0063]-[0065], [0083], [0132], [0164].	6-7, 9-11, 14-17 ----- 8, 12
Y --- A	US 2008/0051563 A1 (LAZAR et al.) 28 February 2008 (28.02.2008) para [0018]-[0020], [0088], [0135], [0137], [0140], [0148], [0277], [0278].	15-17
A	WO 2008/009545 A1 (SPEE et al.) 24 January 2008 (24.01.2008) SEQ ID NO: 24; pg 2, ln 2-7; pg 63, ln 9-17.	8, 12
A	US 2005/0090648 A1 (TSURUSHITA et al.) 28 April 2005 (28.04.2005) SEQ ID NO: 9; para [0002], [0011], [0007], [0048].	5, 12

 Further documents are listed in the continuation of Box C.

* 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 application or patent 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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Facsimile No. 571-273-3201

Authorized officer:

Lee W. Young

PCT Helpdesk: 571-272-4300
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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 09/38171

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.: 18-25
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:
Group I: Claims 1-2, 5-12 and 14-17, drawn to polypeptides that bind to a human BCR complex, comprising:
a polypeptide with an amino acid sequence of SEQ ID NO: 10;
a polypeptide comprising an amino acid sequence of SEQ ID NO: 22; and
a polypeptide comprising two antibody variable domains, wherein a first antibody variable domain comprises an amino acid sequence of SEQ ID NO: 10, and wherein a second antibody variable domain comprises an amino acid sequence of SEQ ID NO: 22.

---please see continuation on extra 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 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.:
1-2, 5-12 and 14-17, limited to SEQ ID NOs: 10 and 22

- 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.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 09/38171

Continuation of:

Box No. III: Observations where unity of invention is lacking

Group II+: Claims 1-17, drawn to polypeptides that bind to a human BCR complex, comprising:
a polypeptide with an amino acid sequence selected from the group consisting of SEQ ID NOs: 10, 12, 14, 16, 18 and 20;
a polypeptide with an amino acid sequence selected from the group consisting of SEQ ID NOs: 22, 24, 26, 28, 30, 32, 34 and 36; and
a polypeptide comprising two antibody variable domains, wherein a first antibody variable domain comprises an amino acid sequence selected from the group consisting of SEQ ID NOs: 10, 12, 14, 16, 18 and 20, and wherein a second antibody variable domain comprises an amino acid sequence selected from the group consisting of SEQ ID NOs: 22, 24, 26, 28, 30, 32, 34 and 36; wherein if a first sequence is SEQ ID NO: 10, then the second sequence is not SEQ ID NO: 22, and vice versa. If Applicant elects to have this group searched, Applicant must specify the specific sequences to be searched.
Please note that claim 13 will be searched only if Applicant elects to have SEQ ID NO: 16 and SEQ ID NO: 34 searched.

The inventions listed as Groups I-II+ do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The polypeptides of Groups I and II+ would be regarded as having the same or corresponding technical feature if the alternatives had a common activity, and shared a significant structural element that is essential to the common activity. However, significant structural similarities in the amino acid sequences essential to the common activity of the polypeptides cannot readily be ascertained among the listed inventions. Consequently, the inventions listed as Groups I-II+ do not share a special technical feature. In the absence of a shared special technical feature, the inventions lack unity with one another.