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US

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- 81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
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[Continued on next page]

#### (54) Title: HUMANIZED ANTIBODY AGAINST INTERLEUKIN-20 AND TREATMENT FOR INFLAMMATORY DISEASES

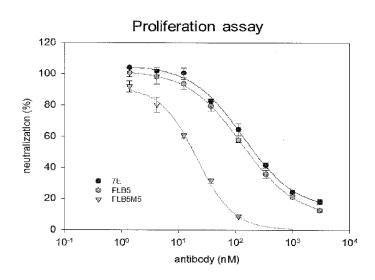


FIG. 6

(57) Abstract: A humanized antibody, or a scFv, Fab, or F(ab')<sub>2</sub> thereof, includes: a heavy chain variable region, or a homologous variant thereof, wherein the heavy chain variable region includes: heavy chain framework regions, CDRH1 that has the sequence of SEQ ID NO:19, CDRH2 that has the sequence of SEQ ID NO:20, and CDRH3 that has the sequence of SEQ ID NO:21, wherein the heavy chain variable region and the homologous variant share at least 90% sequence identity in the heavy chain framework regions; and a light chain variable region, or a homologous variant thereof, that includes: light chain framework regions, CDRL1 that has the sequence of SEQ ID NO:22, CDRL2 that has the sequences of SEQ ID NO:23, and CDRL3 that has the sequences of SEQ ID NO:24, wherein the light chain variable region and the homologous variant share at least 90% sequence identity in the light chain framework regions.



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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))
- with sequence listing part of description (Rule 5.2(a))

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11 December 2014

## INTERNATIONAL SEARCH REPORT

International application No.

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LASSIFICATION OF SUBJECT MATTER P(PC(B) - COTK 1646 (2014.06) According to International Parent Classification (IPC) or to both national classification and IPC B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC(B) - Acti Say00, 399395; COTK 1600, 16446, C12N 1509 (2014.01) USPG- 42M130.1, 133.1, 134.1, 135.1, 135.1 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched CPC - Acti Say365; COTK 1600, 2317/00, 2317/02, 2317/24 (2014.06)  Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched CPC - Acti Say365; COTK 1600, 2317/00, 2317/02, 2317/24 (2014.06)  Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched CPC - Acti Say365; COTK 1600, 2317/00, 2317/02, 2317/24 (2014.06)  Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched CPC - Acti Say365; COTK 1600, 2317/00, 2317/02, 2317/24 (2014.06)  Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  Orbit, Google Patents, PubMed  C. DOCUMENTS CONSIDERED TO BE RELEVANT  Category*  Citation of document, with indication, where appropriate, of the relevant passages  Relevant to claim No.  Y				PCT/US20	14/034579	
B. FIELDS SEARCHED  Minimum documentation searched (classification system followed by classification symbols)  IPSC(9). ASIX 5900, 393995. CO7X 1600, 1646; CIZN 15/09 (2014.01)  USPC - 424/190.1, 133.1, 134.1, 135.1, 136.1  Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  CFC - ASIX 39395, C07X 1600, 2317/00, 2317/20, 2317/24 (2014.06)  Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  Orbit, Google Patents, PubMed  C. DOCUMENTS CONSIDERED TO BE RELEVANT  Category*  Citation of document, with indication, where appropriate, of the relevant passages  Relevant to claim No.  WO 2012/110360 A1 (HAEGEL et al) 23 August 2012 (23.08.2012) entire document  1-3  US 2006/013850 A1 (WARNE et al) 31 August 2006 (31.08.2006) entire document  2-3  A US 5,874,299 A (LONDERG et al) 23 February 1999 (23.02.1999) entire document  1-3  US 2012/0308575 A1 (GUO et al) 08 December 2012 (08.12.2012) entire document  1-3  US 2012/0308575 A1 (GUO et al) 08 December 2012 (08.12.2012) entire document  1-3  Inter document with the application that of the art which is not considered to be of principal relevance, the claimed invention cannot be considered to be of principal relevance, the claimed invention cannot be considered to the considered to be of principal and the continuation of box comment of paticular relevance, the claimed invention cannot be considered to the comment of the such documents, such combination being obvious to a person skilled in the art without a considered to be principle or the international fling date or principal deciments or other such as a principal and the considered to be of principal art relevance, the claimed invention cannot be considered to the considered to be of principal art relevance, the claimed invention cannot be considered and the considered to invention cannot be considered to the principle or the considered to invention cannot be considered to	IPC(8) - CPC -	C07K 16/46 (2014.01) C07K 2317/24 (2014.06)	national classification ar	nd IPC	·	
IFCIB) - ABIK 3900, 39955; C07K 1800, 1646; C12N 1509 (2014.01)   USPG - 424/130.1, 133.1, 134.1, 135.1, 136.1   Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched CPC - A61K 39/395; C07K16/00, 2317/00, 2317/24 (2014.06)   Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)   Orbit, Google Patents, PubMed   C. DOCUMENTS CONSIDERED TO BE RELEVANT   Category*   Citation of document, with indication, where appropriate, of the relevant passages   Relevant to claim No.						
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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  Date of the actual completion of the international search  10 September 2014  Name and mailing address of the ISA/US  Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450  "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 mailing of the international search report  O 7 O C T 2014  Authorized officer:  Blaine R. Copenheaver	"E" earlier application or patent but published on or after the international filing date		"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive			
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Name and mailing address of the ISA/US  Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450  Authorized officer:  Blaine R. Copenheaver	Date of the a	ctual completion of the international search	۔ ۔ ۔ ۔ ا	Date of mailing of the international search report		
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Facsimile No. 571-273-3201

## INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2014/034579

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.: 5-10 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:					
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.:					
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.					