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C07K 16/18 (2006.01)
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62/250,995 4 November 2015 (04.11.2015) US
- (71) **Applicant (for all designated States except AL, AT, BE, BG, CH, CN, CY, CZ, DE, DJ, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IN, IS, IT, KW, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR):** GEN-ENTECH, INC. [US/US]; 1 DNA Way, South San Francisco, California 94080 (US).
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DNA Way, South San Francisco, California 94080 (US). TESAR, Devin; 1 DNA Way, South San Francisco, California 94080 (US). SCHEER, Justin M.; 1 DNA Way, South San Francisco, California 94080 (US). DION, Michelle; 1 DNA Way, South San Francisco, California 94080 (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, DJ, 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, KW, KZ, LA, LC, LK, LR, LS, 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.

(84) **Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, BL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK,

[Continued on next page]

(54) **Title:** ANTI-FACTOR D ANTIBODIES AND CONJUGATES

Antibody	Name	On-Rate (M <sup>-1</sup> s <sup>-1</sup> )	Off-Rate (s <sup>-1</sup> )	KD (pM) (Human)	KD (pM) (cyno)	FRET IC50 (pM)	Viscosity on PEG-octamer	Viscosity on (Fab; No PEG)	Solubility (PBS pH 7.4)	MA Solubility (PBS pH 7.4)
hu20D12.v1.N54S	hu20D12.v2.0	1.4e7	5.5e-4	39	152	51, 59		12 cP @ 280 mg/ml	Clear @ 252 mg/ml	
hu20D12.v1.N54S.G56D	hu20D12.v2.2	1.5e7	9.5e-4	65						
hu20D12.v1.N54S.G56E	hu20D12.v2.4	1.7e7	4.9e-4	28						
hu20D12.v1.N54S.T53Y	hu20D12.v2.5	1.7e7	7.9e-4	45						
hu20D12.v1.N54S.Y49S	hu20D12.v2.6	2.1e5	3.9e-4	143						
hu20D12.v1.N54S.Y49K	hu20D12.v2.7	1.1e7	5.5e-4	49						
hu20D12.v1.N54S.Y49Q	hu20D12.v2.8	6.6e7	4e-3	61						
hu20D12.v1.N54S.Y49R	hu20D12.v2.1	1.2e7	8.1e-5	<10(6.8)	17	33, 32	288 cP @ 201 mg/ml	7.1 cP @ 177 mg/ml	Clear @ 260 mg/ml	0.443 OD @ 150 mg/ml
hu20D12.v1.N54S.E50W	hu20D12.v2.9	3.4e7	6.3e-3	185						
hu20D12.v1.N54S.Y55K	hu20D12.v2.10	5e6	3e-2	6000						
hu20D12.v1.N54S.Y56R	hu20D12.v2.11	3e6	3e-2	10000						
hu20D12.v1.N54S.Y49R.T53Y	hu20D12.v2.12	1.8e7	1.5e-4	<10(8.3)						
hu20D12.v1.N54S.N62E.Y49R	hu20D12.v2.13	4.1e7	1.3e-4	<10(3.1)						
hu20D12.v1.N54S.Y49R.G56E	hu20D12.v2.14	1.5e7	3e-5	<10(5.3)	50	25				
hu20D12.v1.N54S.Y49R.T53Y.G56E	hu20D12.v2.15	1.9e7	9e-5	<10(3.2)	27	24				
hu20D12.v1.N54S.Y49R.T53Y.G56D	hu20D12.v2.3	1.2e7	2.9e-5	<10(2.4)	24	25, 31, 31	577 cP @ 194 mg/ml			
AFD.y6		2.0e7	2.1e-4	10.5	24	21, 28		14.4 cP @ 261 mg/ml		
AFD.y14		0.9e7	2.1e-4	23.3	58	25, 34, 28	579 cP @ 117 mg/ml	21 cP @ 240 mg/ml		
tempalumab		6.2e7	3.3e-4	<10(4.0)	30	24		14.6 cP @ 264 mg/ml	Precipitates @ 227 mg/ml	Precipitates @ 150 mg/ml; no OD value

FIG. 11

(57) **Abstract:** The invention provides anti-Factor D antibodies and conjugates and methods of using the same.

WO 2017/075173 A3

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

**Published:**

**(88) Date of publication of the international search report:**  
27 July 2017

- *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/US2016/059048

## Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item 1.c of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of a sequence listing:
  - a.  forming part of the international application as filed:
    - in the form of an Annex C/ST.25 text file.
    - on paper or in the form of an image file.
  - b.  furnished together with the international application under PCT Rule 13ter.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
  - c.  furnished subsequent to the international filing date for the purposes of international search only:
    - in the form of an Annex C/ST.25 text file (Rule 13ter.1(a)).
    - on paper or in the form of an image file (Rule 13ter.1(b) and Administrative Instructions, Section 713).
2.  In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
3. Additional comments:

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2016/059048

## 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.:

### 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/US2016/059048

A. CLASSIFICATION OF SUBJECT MATTER  
INV. A61K39/395 C07K16/18 A61P27/02  
ADD.

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)  
A61K 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 practicable, search terms used)

EPO-Internal, BIOSIS, EMBASE, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2008/147883 A1 (GENENTECH INC [US]; HASS PHILIP [US]; JIANPING YIN [US]; KATSCHKE KENN) 4 December 2008 (2008-12-04) cited in the application	1-10, 12-18, 25-40, 83-110
Y	page 24, line 26 - page 29, line 29; claims; examples; sequences 1,2	20,21, 41-82
A	page 32, line 13 - page 34, line 19  ----- -/--	11,19, 22-24

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 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  8 May 2017	Date of mailing of the international search report  19/06/2017
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer  Loubradou, Gabriel
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## INTERNATIONAL SEARCH REPORT

International application No  
PCT/US2016/059048

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JAMES T. PATTERSON ET AL: "Improving the Serum Stability of Site-Specific Antibody Conjugates with Sulfone Linkers", BIOCONJUGATE CHEMISTRY, vol. 25, no. 8, 20 August 2014 (2014-08-20), pages 1402-1407, XP055338868, ISSN: 1043-1802, DOI: 10.1021/bc500276m abstract; figure 1	20,21
Y	JEVSEVAR SIMONA ET AL: "PEGylation of antibody fragments for half-life extension", METHODS IN MOLECULAR BIOLOGY,, vol. 901, 1 January 2012 (2012-01-01), pages 233-246, XP009169915, ISSN: 1940-6029 ISBN: 978-1-61779-291-5 abstract page 236, paragraph 2 - page 237, last paragraph	41-82
Y	VUGMEYSTER Y ET AL: "Pharmacokinetic, biodistribution, and biophysical profiles of TNF nanobodies conjugated to linear or branched poly(ethylene glycol)", BIOCONJUGATE CHEMISTRY,, vol. 23, no. 7, 18 July 2012 (2012-07-18), pages 1452-1462, XP002735223, ISSN: 1043-1802, DOI: 10.1021/BC300066A [retrieved on 2012-06-25] abstract; figure 1	41-82
Y	EP 2 267 028 A2 (DOMANTIS LTD [GB]) 29 December 2010 (2010-12-29) page 6, paragraph [0327] page 37, paragraph [0437] - page 43, paragraph [0464]; figures 10,11; examples	41-82
Y	CHANDRASEKAR DURAIRAJ ET AL: "Prediction of Vitreal Half-Life Based on Drug Physicochemical Properties: Quantitative Structure-Pharmacokinetic Relationships (QSPKR)", PHARMACEUTICAL RESEARCH, KLUWER ACADEMIC PUBLISHERS-PLENUM PUBLISHERS, NL, vol. 26, no. 5, 8 October 2008 (2008-10-08), pages 1236-1260, XP019686076, ISSN: 1573-904X page 1255, right-hand column, last paragraph - page 1256, left-hand column, paragraph 1	41-82
	----- -/--	

## INTERNATIONAL SEARCH REPORT

International application No  
PCT/US2016/059048

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	HANIEH KHALILI ET AL: "Fab-PEG-Fab as a Potential Antibody Mimetic", BIOCONJUGATE CHEMISTRY, vol. 24, no. 11, 27 September 2013 (2013-09-27), pages 1870-1882, XP055096654, ISSN: 1043-1802, DOI: 10.1021/bc400246z abstract; figure 1	41-82
A	----- WO 2009/134711 A1 (GENENTECH INC [US]; HUANG ARTHUR J [US]; KELLEY ROBERT F [US]; LOWMAN) 5 November 2009 (2009-11-05) claims; examples	1-110
Y,P	----- WO 2015/168468 A1 (GENENTECH INC [US]; HOFFMANN LA ROCHE [CH]) 5 November 2015 (2015-11-05) page 31, paragraph [000112] - paragraph [000113]; examples	41-82
A	----- WO 2014/008218 A1 (SQUIBB BRISTOL MYERS CO [US]) 9 January 2014 (2014-01-09)  page 1, paragraph 2; figure 3; examples	1,2,4-6, 8-10, 12-18, 20,21, 25-110
A	----- US 2015/259419 A1 (LIU YUE [US] ET AL) 17 September 2015 (2015-09-17)  example 6	1,2,4-6, 8-10, 12-18, 20,21, 25-110
A	----- WO 2011/008092 A2 (AIMM THERAPEUTICS BV [NL]; GENENTECH INC [US]; BEAUMONT TIM [NL]; KWAK) 20 January 2011 (2011-01-20)  example 4	1,2,4-6, 8-10, 12-18, 20,21, 25-110
A	----- WO 2006/083971 A2 (GENENTECH INC [US]; ADAMS CAMELLIA W [US]) 10 August 2006 (2006-08-10)  example 1; table 1	1,2,4-6, 8-10, 12-18, 20,21, 25-110

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2016/059048

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2008147883	A1	04-12-2008	
		AR 066660 A1	02-09-2009
		AU 2008256835 A1	04-12-2008
		BR PI0811142 A2	23-12-2014
		CA 2683498 A1	04-12-2008
		CN 101754980 A	23-06-2010
		CN 104367999 A	25-02-2015
		CY 1116062 T1	08-02-2017
		DK 2152755 T3	02-03-2015
		EP 2152755 A1	17-02-2010
		ES 2533242 T3	08-04-2015
		HK 1139161 A1	30-10-2015
		HK 1207327 A1	29-01-2016
		HR P20150281 T1	10-04-2015
		IL 201476 A	30-11-2016
		JP 5416695 B2	12-02-2014
		JP 2010528047 A	19-08-2010
		JP 2014087346 A	15-05-2014
		JP 2016145205 A	12-08-2016
		KR 20100033973 A	31-03-2010
		PE 02942009 A1	27-03-2009
		PH 12013500992 A1	25-01-2016
		PT 2152755 E	01-04-2015
		RU 2009147744 A	27-06-2011
		RU 2014113046 A	10-10-2015
		SG 10201401404R A	28-08-2014
		SI 2152755 T1	29-05-2015
		TW 200904471 A	01-02-2009
		TW 201417829 A	16-05-2014
		US 2009181017 A1	16-07-2009
		US 2011282034 A1	17-11-2011
		US 2013052685 A1	28-02-2013
		US 2013302333 A1	14-11-2013
		US 2016272726 A1	22-09-2016
		WO 2008147883 A1	04-12-2008
		ZA 200907028 B	29-12-2010
-----			
EP 2267028	A2	29-12-2010	NONE
-----			
WO 2009134711	A1	05-11-2009	
		AR 071510 A1	23-06-2010
		AR 086272 A2	04-12-2013
		AU 2009241348 A1	05-11-2009
		CA 2720853 A1	05-11-2009
		CA 2908470 A1	05-11-2009
		CN 102066419 A	18-05-2011
		CN 103724433 A	16-04-2014
		CO 6331346 A2	20-10-2011
		CR 11817 A	13-01-2011
		CY 1116982 T1	05-04-2017
		DK 2283041 T3	07-12-2015
		EC SP10010637 A	30-12-2010
		EP 2283041 A1	16-02-2011
		EP 3002295 A1	06-04-2016
		ES 2552817 T3	02-12-2015
		HK 1147503 A1	27-05-2016
		HK 1193111 A1	25-11-2016
		HR P20151259 T1	18-12-2015
		JP 5636359 B2	03-12-2014
		JP 5931008 B2	08-06-2016



## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2016/059048

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
		JP 2011521623 A	28-07-2011	
		JP 2013231045 A	14-11-2013	
		KR 20110004451 A	13-01-2011	
		KR 20130084330 A	24-07-2013	
		MA 32300 B1	02-05-2011	
		NZ 588457 A	21-12-2012	
		NZ 603492 A	30-05-2014	
		NZ 621103 A	30-10-2015	
		PE 08062014 A1	17-07-2014	
		PE 17832009 A1	04-12-2009	
		PT 2283041 E	24-11-2015	
		RU 2010148423 A	10-06-2012	
		SG 189756 A1	31-05-2013	
		SG 10201608305S A	29-11-2016	
		SI 2283041 T1	31-12-2015	
		TW 200944234 A	01-11-2009	
		TW 201437230 A	01-10-2014	
		US 2009269338 A1	29-10-2009	
		US 2012328613 A1	27-12-2012	
		US 2014065137 A1	06-03-2014	
		US 2014212433 A1	31-07-2014	
		US 2016145349 A1	26-05-2016	
		WO 2009134711 A1	05-11-2009	
-----				
WO 2015168468	A1	05-11-2015	AU 2015253042 A1	20-10-2016
			CA 2944712 A1	05-11-2015
			CN 106536561 A	22-03-2017
			EA 201692109 A1	31-03-2017
			EP 3137503 A1	08-03-2017
			KR 20160147855 A	23-12-2016
			PE 14402016 A1	26-01-2017
			PH 12016502015 A1	16-01-2017
			SG 11201608868P A	29-11-2016
			TW 201623337 A	01-07-2016
			US 2016017052 A1	21-01-2016
			WO 2015168468 A1	05-11-2015
-----				
WO 2014008218	A1	09-01-2014	AR 091649 A1	18-02-2015
			AU 2013286914 A1	29-01-2015
			CA 2877746 A1	09-01-2014
			CL 2014003637 A1	27-03-2015
			CN 104411723 A	11-03-2015
			CO 7170127 A2	28-01-2015
			EA 201590138 A1	30-07-2015
			EP 2867258 A1	06-05-2015
			HK 1207386 A1	29-01-2016
			JP 2015527880 A	24-09-2015
			KR 20150023909 A	05-03-2015
			NZ 628528 A	29-07-2016
			PE 02212015 A1	19-02-2015
			PH 12014502854 A1	23-02-2015
			SG 10201610960Y A	27-02-2017
			SG 11201408780X A	29-01-2015
			TN 2014000536 A1	30-03-2016
			TW 201406784 A	16-02-2014
			US 2014093511 A1	03-04-2014
			US 2015307609 A1	29-10-2015
			UY 34887 A	31-12-2013

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2016/059048

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
		WO 2014008218 A1	09-01-2014
-----			
US 2015259419	A1 17-09-2015	AU 2015228454 A1	11-08-2016
		CA 2942233 A1	17-09-2015
		CN 106132990 A	16-11-2016
		CU 20160133 A7	02-02-2017
		EA 201691836 A1	30-12-2016
		EP 3116912 A1	18-01-2017
		JP 2017510567 A	13-04-2017
		KR 20160131061 A	15-11-2016
		PE 12102016 A1	02-12-2016
		PH 12016501760 A1	07-11-2016
		SG 11201606274X A	30-08-2016
		TW 201623331 A	01-07-2016
		US 2015259419 A1	17-09-2015
		WO 2015136470 A1	17-09-2015
-----			
WO 2011008092	A2 20-01-2011	AR 077756 A1	21-09-2011
		AU 2010271582 A1	01-03-2012
		AU 2016250398 A1	17-11-2016
		BR 112012000953 A2	22-11-2016
		CA 2768204 A1	20-01-2011
		CN 102666583 A	12-09-2012
		CN 105440133 A	30-03-2016
		EA 201390967 A1	30-01-2014
		EP 2454284 A2	23-05-2012
		IL 217497 A	30-11-2015
		IL 238074 A	30-06-2016
		JP 2012533293 A	27-12-2012
		JP 2016135771 A	28-07-2016
		KR 20120065326 A	20-06-2012
		NZ 598063 A	25-07-2014
		NZ 616921 A	26-06-2015
		SG 177653 A1	28-02-2012
		TW 201107470 A	01-03-2011
		TW 201610153 A	16-03-2016
		US 2011020323 A1	27-01-2011
		US 2012157665 A1	21-06-2012
		US 2013253175 A1	26-09-2013
		US 2013261293 A1	03-10-2013
		US 2014235828 A1	21-08-2014
		US 2015376266 A1	31-12-2015
		US 2016222096 A1	04-08-2016
		US 2017067880 A1	09-03-2017
		WO 2011008092 A2	20-01-2011
		ZA 201200363 B	25-06-2014
-----			
WO 2006083971	A2 10-08-2006	AT 526987 T	15-10-2011
		AU 2006210779 A1	10-08-2006
		BR PI0606891 A2	21-07-2009
		CA 2594918 A1	10-08-2006
		EP 1844077 A2	17-10-2007
		ES 2374301 T3	15-02-2012
		HK 1109638 A1	17-08-2012
		IL 184617 A	30-05-2013
		JP 5886509 B2	16-03-2016
		JP 2008532487 A	21-08-2008
		JP 2013027407 A	07-02-2013

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2016/059048

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
		JP 2015133985 A	27-07-2015
		KR 20070102585 A	18-10-2007
		NZ 556478 A	25-02-2011
		US 2006269554 A1	30-11-2006
		US 2007031414 A1	08-02-2007
		US 2012087922 A1	12-04-2012
		WO 2006083971 A2	10-08-2006

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 3, 7, 11, 19, 22-24(completely); 1, 2, 4-6, 8-10, 12-18, 20, 21, 25-110(partially)

Subject-matter of claims 1 to 110 as far as X2 is R (position 49 of the light chain is arginine; see claim 3). This invention includes the antibodies hu20D12.v2.1, hu20D2012.v2.3, hu20D2012.v2.12, hu20D2012.v2.13, hu20D2012.v2.14 and hu20D2012.v2.15.

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2. claims: 1, 2, 4-6, 8-10, 12-18, 20, 21, 25-110(all partially)

Subject-matter of claims 1, 2, 4 to 6, 8 to 10, 12 to 18, 20, 21 and 25 to 110 as far as X2 is not R and as far as the HVRs correspond to one of the alternatives a), b) and d) to 1) of claim 6.

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3. claims: 1, 2, 4-6, 8-10, 12-18, 20, 21, 25-110(all partially)

Subject-matter of claims 1, 2, 4 to 6, 8 to 10, 12 to 18, 20, 21 and 25 to 110 as far as the antibody corresponds to the alternative g) of claim 10 (the variable regions of the antibody hu20D12.v1).

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