(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3: 29.02.2012 Bulletin 2012/09

(51) Int Cl.: A61K 39/395 (2006.01) C12N 15/09 (2006.01)

C07K 16/22 (2006.01)

(43) Date of publication A2: 11.01.2012 Bulletin 2012/02

(21) Application number: 11175663.1

(22) Date of filing: 08.12.2006

(84) Designated Contracting States:

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

Designated Extension States:

AL BA HR MK RS

(30) Priority: 13.12.2005 US 750085 P 14.12.2005 US 750772 P 17.02.2006 US 774747 P 24.05.2006 US 808183 P

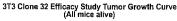
- (83) Declaration under Rule 32(1) EPC (expert solution)
- (62) Document number(s) of the earlier application(s) in accordance with Art. 76 EPC: 06848597.8 / 1 979 001
- (71) Applicant: AstraZeneca AB 151 85 Södertälje (SE)

(72) Inventors:

- Cartlidge, Susan Ann Macclesfield Cheshire SK10 4TG (GB)
- Tonge, David William Macclesfield Cheshire SK10 4TG (GB)
- Raeber, Olivia Redwood City California 94061 (US)
 Gazit-Bornstein, Gadi
- Cambridge
 Massachusetts 02141 (US)
- Yang, Xiaodong Palo Alto California 94306 (US)
- (74) Representative: Bates, Rosica Florence MedImmune Ltd.
 Milstein Building Granta Park
 Cambridge CB21 6GH (GB)

(54) Binding proteins specific for insulin-like growth factors and uses thereof

(57) Binding proteins, such as antibodies directed to IGF-II with cross-reactivity to IGF-I and uses of such antibodies are described. In particular, fully human monoclonal antibodies directed to the IGF-II with cross-reactivity to IGF-I are disclosed. Also discussed are nucleotide sequences encoding, and amino acid sequences comprising, heavy and light chain immunoglobulin molecules, particularly sequences corresponding to contiguous heavy and light chain sequences spanning the framework regions and/or complementarity determining regions (CDR's), specifically from FR1 through FR4 or CDR1 through CDR3.



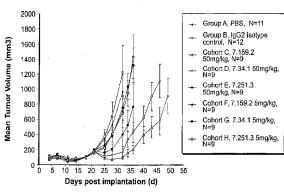


FIG. 1



EUROPEAN SEARCH REPORT

Application Number

EP 11 17 5663

		ERED TO BE RELEVANT			
Category	Citation of document with ir of relevant passa	ndication, where appropriate, ages	Rele to c	evant laim	CLASSIFICATION OF THE APPLICATION (IPC)
Х	[JP]; JAPAN GOVERNM ATSUSHI [JP];) 3 Ma * the whole documen	rch 2005 (2005-03-03) it *	1-16		INV. A61K39/395 C07K16/22 C12N15/09
X,P	& EP 1 661 582 A (K [JP]; JAPAN GOVERNM 31 May 2006 (2006-0 * (Engl. language e WO2005/018671) Whole document, in	5-31) quivalent of	1-16	5	
Х	EP 1 505 075 A1 (KY [JP]) 9 February 20 * the whole documen	05 (2005-02-09)	1-16	5	
A	WO 2005/016970 A (I [US]; LUDWIG DALE L 24 February 2005 (2 * the whole documen	. [US]) 005-02-24)	1-16	5	
A	human prostate cand bone implanted into diabetic/severe com mice by a ligand-sp human insulin-like CANCER RESEARCH, AM CANCER RESEARCH, BA	abined immunodeficient decific antibody to growth factors", BERICAN ASSOCIATION FOR ALTIMORE, MD, US, 104, pages 6252-6258,	1-16	5	TECHNICAL FIELDS SEARCHED (IPC) A61K C07K
	The present search report has I	Date of completion of the search	 		Examiner
	Munich	4 January 2012		Ros	coe, Richard
C	ATEGORY OF CITED DOCUMENTS	T: theory or princip	le underly		
X : part	icularly relevant if taken alone icularly relevant if combined with anot	E : earlier patent do after the filing da	cument, k te	out publis	



EUROPEAN SEARCH REPORT

Application Number EP 11 17 5663

Category	Citation of document with indication of relevant passages	on, where appropriate,	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)		
A	RUSSEL W E ET AL: "Inh mitogenic effects of pl monoclonalantibody to s PROCEEDINGS OF THE NATION SCIENCES OF USA, NATION SCIENCE, WASHINGTON, DC vol. 81, no. 8, 1984, p XP002984258, ISSN: 0027-8424 * the whole document *	1-16	AFFECATION (IFC)			
A	VAN WUK JUDSON J ET AL: for species and ligand monoclonal antibody rai IGF-I", ENDOCRINOLOGY, vol. 138, no. 10, 1997, XP002438459, ISSN: 0013-7227 * the whole document *	specificity of a sed against human	1-16			
A	MIYAMOTO SHIN'ICHI ET A paracrine supply of ins factors using neutraliz suppresses the liver me colorectal cancers", CLINICAL CANCER RESEARC ASSOCIATION FOR CANCER vol. 11, no. 9, 1 May 2 pages 3494-3502, XP0024 ISSN: 1078-0432 * the whole document *	sulin-like growth sing antibodies etastasis of human CH, THE AMERICAN RESEARCH, US, 2005 (2005-05-01),	1-16	TECHNICAL FIELDS SEARCHED (IPC)		
	The present search report has been d	·				
Place of search Munich		Date of completion of the search 4 January 2012	Ros	coe, Richard		
X : parti Y : parti docu	ATEGORY OF CITED DOCUMENTS coularly relevant if taken alone coularly relevant if combined with another ment of the same category nological background	T : theory or principle E : earlier patent doo after the filing date D : document cited in L : document cited fo	underlying the in ument, but publis the application r other reasons	nvention		



EUROPEAN SEARCH REPORT

Application Number EP 11 17 5663

Category	Citation of document with in of relevant passa	dication, where appropriate, iges	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	monoclonal antibodi	factor-II and their ern immunoblot ENDOCRINOLOGY AND NE SOCIETY, CHEVY 3, pages 510-517,	1-16	
A	MANES S ET AL: "FU MAPPING OF INSULIN- (IGF-I) BY ANTI-IGF ANTIBODIES", ENDOCRINOLOGY, BALT vol. 138, no. 3, 19 XP002918936, ISSN: 0013-7227 * the whole documen	LIKE GROWTH FACTOR I -I MONOCLONAL IMORE, MD, US, 97, pages 905-915,	1-16	TECHNICAL FIELDS SEARCHED (IPC)
	The present search report has be	<u>'</u>		<u> </u>
	Place of search Munich	Date of completion of the search 4 January 2012	Ro	scoe, Richard
X : part Y : part docu A : tech O : non	ATEGORY OF CITED DOCUMENTS cularly relevant if taken alone cularly relevant if combined with another ment of the same category nological background written disclosure mediate document	T : theory or print E : earlier patent after the filing D : document cite L : document cite	iple underlying the document, but pub	invention lished on, or

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 11 17 5663

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

04-01-2012

Patent document cited in search report		Publication date	Patent family member(s)		Publication date	
WO 2005018671	A	03-03-2005	CA EP US WO	2536288 1661582 2006263362 2005018671	A1 A1	03-03-2005 31-05-2006 23-11-2006 03-03-2005
EP 1505075	A1	09-02-2005	AT AU CA EP ES JP US WO	2483848 1505075 2333952 4335130	A1 A1 A1 T3 B2 A1	15-10-2009 17-11-2003 13-11-2003 09-02-2005 03-03-2010 30-09-2009 27-07-2006 13-11-2003
WO 2005016970	Α	24-02-2005	CA EP EP JP US US WO		A1 A2 A2 A A A1 A1 A2	24-02-2005 08-02-2006 14-09-2011 13-12-2007 22-09-2011 31-01-2008 24-06-2010 24-02-2005

FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82