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61/235,799 21 August 2009 (21.08.2009) US
- (71) **Applicant (for all designated States except US):** MER-RIMACK PHARMACEUTICALS, INC. [US/US]; One Kendall Square, Suite B7201, Cambridge, MA 02139 (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, 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, IS, JP, KE, KG, KM, 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, PE, PG, PH, PL, PT, RO, RS, RU, 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, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, 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, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on nextpage]

(54) **Title:** ANTIBODIES AGAINST THE ECTODOMAIN OF ERBB3 AND USES THEREOF

V _H	CDR1	SEQ ID
NO:		
Wild Type	H-Y-V-M-A	7
Consensus	Xaa-Y/F/W/H-V-M-A	60
Paratope	Xaa-Y/F/W/H-V-Xaa-Xaa	63
	CDR2	
Wild Type	S-I-S-S-G-G-W-T-L-Y-A-D-S-V-K-G	8
Consensus	S-I-Xaa-Xaa-Xaa-G-G-W-T/A-L-Y-A-D-S-V-K-G	61
Paratope	(Xaa) ₁ -W-T/A-L-(Xaa) ₇	64
	CDR3	
Wild Type	G-L-K-M-A-T-I-F-D-Y	9
Consensus	G-L-Xaa-M-A-T-I-F-Xaa-Y	62
Paratope	Xaa-L-Xaa-M-Xaa-T-I-Xaa-Xaa-Xaa	65
V _L	CDR1	
Wild Type	T-G-T-S-S-D-V-G-S-Y-N-V-V-S	10
Consensus	T-G-Xaa-Xaa-Xaa-D-V-G-Xaa-Y/F/W/H-Xaa-V-V-S	66
Paratope	(Xaa) ₁ -D-Xaa-Xaa-Xaa-Y/F/W/H-Xaa-V-Xaa-Xaa	69
	CDR2	
Wild Type	E-V-S-Q-R-P-S	11
Consensus	(Xaa) ₅ -P-S	67
Paratope	(Xaa) ₇	70
	CDR3	
Wild Type	C-S-Y-A-G-S-S-I-F-V-I	12
Consensus	C-S-Y/F/W/H-A-G-Xaa-Xaa-Xaa-F-V-I	68
Paratope	Xaa-Xaa-Y/F/W/H-(Xaa) ₆	71

Fig. 37A

(57) **Abstract:** The present invention provides a novel class of antibodies and antigen binding fragments thereof that bind the extracellular domain of ErbB3 receptor and inhibit various ErbB3 functions. For example, the antibodies and antigen binding fragments described herein are capable of binding to the receptor designated ErbB3 and inhibiting EGF-like ligand mediated phosphorylation of the receptor. Such antibodies and antigen binding fragments thereof have the useful characteristic of inhibiting the proliferation of cancer cells expressing ErbB3.

- 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))

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

(88) Date of publication of the international search report:

27 June 2013

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International application No
PCT/US201Q/046364

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61K39/395 C07K16/32
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)
C07K 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 practicable, search terms used)

EPO-Internal , BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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Y	the whole document	1-25
X	SCHOEBERL B ET AL: "Therapeutically targeting ErbB3: A key node in ligand-induced activation of the ErbB receptor-PI3K axis", SCIENCE SIGNALING, AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, US, vol. 2, no. 77 ra 31, 30 June 2009 (2009-06-30) , pages 1-14, XP008143326, ISSN : 1945-0877, DOI : 10.1126/SCISIGNAL.20003521945-	1-25
Y	the whole document	1-25



Further documents are listed in the continuation of Box C.



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"O" document referring to an oral disclosure, use, exhibition or other means

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"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

9 April 2013

Date of mailing of the international search report

18/04/2013

Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No
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International application No
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
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International application No

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