

ErbB4 Monoclonal Antibody (H4.77.16 (Ab77)), Biotin

Catalog NumberMA5-12885

Product data sheet

Details		Species Reactivity	
Size	500 µL	Species reactivity	Human, Mouse, Rat
Host/Isotope	Mouse / IgG1	Published species	Rat, Human, Mouse, Not Applicable
Class	Monoclonal	Tested Applications	Dilution *
Type	Antibody	Flow Cytometry (Flow)	Assay-dependent
Clone	H4.77.16 (Ab77)	Immunoprecipitation (IP)	2 µg/mL
Immunogen	Extracellular fragment of recombinant human c-erbB-4/HER-4 oncoprotein	Western Blot (WB)	1:50-1:500
Conjugate	Biotin	Published Applications	
Form	Liquid	Immunohistochemistry (IHC)	See 3 publications below
Concentration	0.2 mg/mL	Immunocytochemistry (ICC/IF)	See 2 publications below
Storage Conditions	4° C	ELISA (ELISA)	See 1 publications below
		Flow Cytometry (Flow)	See 4 publications below

* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.

Product specific information

MA5-12885 targets HER-4 in WB, FACS and IP applications and shows reactivity with Human, mouse, and Rat samples. The MA5-12885 immunogen is extracellular fragment of recombinant human c-erbB-4/HER-4 oncoprotein.

Background/Target Information

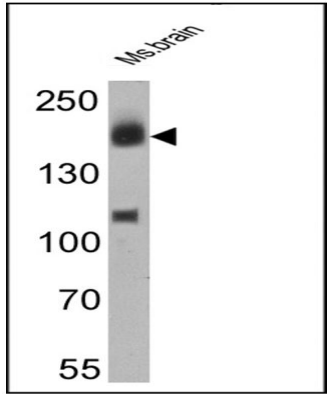
ErbB 4 (Her-4, c-erbB-4, v-erbB-4) is a member of the class I receptor kinase family. With more than 500 gene products, the protein kinase family is one of the largest families of proteins in eukaryotes. The family has been classified in 8 major groups based on sequence comparison of their tyrosine (PTK) or serine/threonine (STK) kinase catalytic domains. ErbB 4 is activated by neuregulins and NTAK (neural and thymus derived activator for ErbB kinases). ErbB 4 is a receptor for heregulin and is capable of mediating HGL-stimulated tyrosine phosphorylation of itself. Like other protein kinases, ErbB 4 mediate most of the signal transduction in eukaryotic cells, regulating cellular metabolism, transcription, cell cycle progression, cytoskeletal rearrangement and cell movement, apoptosis, and differentiation. ErbB 4 is most predominantly expressed in several breast carcinoma cell lines, and in normal skeletal muscle, heart, pituitary, brain, and cerebellum. Breast tumor cell lines T47-D, MDA-MB-453, BT-474 and H3396 are found to have the highest levels of mRNA, and intermediate levels are seen in MCF-7, MDAMB-330 and MDA-MB-361. Expression of ErbB 4 is low or absent in some breast tumor cell lines such as MDA-MB-231, MDA-MB-157, MDA-MB-468, and SKBR-3. ErbB 4 levels have been found to be elevated in certain human tumor cell lines suggesting that it may play a role in some malignancies.

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ErbB4 Antibody (MA5-12885) in WB

Western blot analysis of HER-4 was performed by loading 25 µg of mouse brain cell lysates onto an SDS polyacrylamide gel. Proteins were transferred to a PVDF membrane and blocked at 4°C overnight. The membrane was probed with a HER-4 monoclonal antibody (Product # MA5-12888) at a dilution of 1:100 overnight at 4°C, washed in TBST, and probed with an HRP-conjugated secondary antibody for 1 hr at room temperature in the dark. Chemiluminescent detection was performed using Pierce ECL Plus Western Blotting Substrate (Product # 32132). Results show a band at ~180 kDa.

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PubMed References For ErbB4 Monoclonal Antibody (H4.77.16 (Ab77)), Biotin

3 Immunohistochemistry References

Species / Dilution	Summary
Human / 1:100	MA5-12885 was used in immunohistochemistry to study the expression and immunolocalization of HB-EGF-like growth factor and EGFR in human corpus luteum
	Human reproduction (Oxford, England) (2005; 20: 2708) "Gene expression and immunolocalization of heparin-binding epidermal growth factor-like growth factor and human epidermal growth factor receptors in human corpus luteum." Author(s):Akayama Y,Takekida S,Ohara N,Tateiwa H,Chen W,Nakabayashi K,Maruo T PubMed Article URL: http://dx.doi.org/10.1093/humrep/dei162
Not Applicable / 1:300	MA5-12885 was used in immunohistochemistry to study neuroprotection in SOD1-linked amyotrophic lateral sclerosis mice via restoration of C-boutons of spinal motor neurons by Neuregulin 1
	Acta neuropathologica communications (2016; 4:) "Neuregulin 1 confers neuroprotection in SOD1-linked amyotrophic lateral sclerosis mice via restoration of C-boutons of spinal motor neurons." Author(s):Lasieni J,Komine O,Fujimori-Tonou N,Powers B,Endo F,Watanabe S,Shijie J,Ravits J,Horner P,Misawa H,Yamanaka K PubMed Article URL: http://dx.doi.org/10.1186/s40478-016-0286-7
Human / Not Cited	MA5-12885 was used in immunohistochemistry to study the utility of the 4B5 monoclonal antibody for clinical HER2 status determination in breast tissue expressing HER4
	Histopathology (2013; 62: 563) "Immunohistochemical analysis of the monoclonal antibody 4B5 in breast tissue expressing human epidermal growth factor receptor 4 (HER4)." Author(s):Jay JI,Brunhoeber PS,Smith MH,Williams RR,Sugarman MC,Free HL,Tast DE PubMed Article URL: http://dx.doi.org/10.1111/his.12024

2 Immunocytochemistry References

Species / Dilution	Summary
Rat / Not Cited	MA5-12885 was used in immunocytochemistry to study the role of neuregulin in modulating ErbB4 endocytosis in cultured hippocampal neurons
	Brain research bulletin (2007; 73: 210) "Regulation of ErbB-4 endocytosis by neuregulin in GABAergic hippocampal interneurons." Author(s):Longart M,Chatani-Hinze M,Gonzalez CM,Vullhorst D,Buonanno A PubMed Article URL: http://dx.doi.org/10.1016/j.brainresbull.2007.02.014
Mouse / Not Cited	MA5-12885 was used in immunocytochemistry to investigate the effect of ErbB-4 ribozymes on neuregulin-induced mitogenesis
	Cancer research (1998; 58: 3415) "ErbB-4 ribozymes abolish neuregulin-induced mitogenesis." Author(s):Tang CK,Goldstein DJ,Payne J,Czubayko F,Alimandi M,Wang LM,Pierce JH,Lippman ME PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/9699674

1 ELISA References

Species / Dilution	Summary
Human / Not Cited	MA5-12885 was used in ELISA to develop and characterize specific antibodies targeting EGFR family
	Cancer biotherapy & radiopharmaceuticals (2005; 20: 603) "Isolation of scFvs to in vitro produced extracellular domains of EGFR family members." Author(s):Horak E,Heitner T,Robinson MK,Simmons HH,Garrison J,Russeva M,Furmanova P,Lou J,Zhou Y,Yuan QA,Weiner LM,Adams GP,Marks JD PubMed Article URL: http://dx.doi.org/10.1089/cbr.2005.20.603

4 Flow Cytometry References

Species / Dilution	Summary
Human / 1:50	MA5-12885 was used in flow cytometry to study the role of the HER-2 receptor in modulating the response of ovarian cancer cells to doxorubicin, cisplatin and taxol
	Toxicology (2000; 144: 221) "Reversal of HER-2 over-expression renders human ovarian cancer cells highly resistant to taxol." Author(s):Aigner A,Hsieh SS,Malerczyk C,Czubayko F PubMed Article URL: http://dx.doi.org/10.1016/s0300-483x(99)00210-3

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Human / Not Cited	<p>MA5-12885 was used in flow cytometry to study the role of HER-2/neu overexpression in increasing the viable hypoxic cell population within solid tumors</p> <hr/> <p>Molecular cancer research : MCR (2004; 2: 606) "HER-2/neu overexpression increases the viable hypoxic cell population within solid tumors without causing changes in tumor vascularization." Author(s): Dragowska WH, Warburton C, Yapp DT, Minchinton AI, Hu Y, Waterhouse DN, Gelmon K, Skov K, Woo J, Masin D, Huxham LA, Kyle AH, Bally MB PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/15561777</p>
Mouse / Not Cited	<p>MA5-12885 was used in flow cytometry to investigate the status of the endothelial cell growth, cell death and fibrosis in aggressive inflammatory breast cancer</p> <hr/> <p>Cancer research (2001; 61: 445) "Absence of endothelial cells, central necrosis, and fibrosis are associated with aggressive inflammatory breast cancer." Author(s): Shirakawa K, Tsuda H, Heike Y, Kato K, Asada R, Inomata M, Sasaki H, Kasumi F, Yoshimoto M, Iwanaga T, Konishi F, Terada M, Wakasugi H PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/11212228</p>
Human / Not Cited	<p>MA5-12885 was used in flow cytometry to investigate the synergistic inhibitory effect of anti-HER2 antibody and anti-oestrogen on breast cancer cells</p> <hr/> <p>British journal of cancer (2000; 82: 46) "Anti-HER2 antibody enhances the growth inhibitory effect of anti-oestrogen on breast cancer cells expressing both oestrogen receptors and HER2." Author(s): Kunisue H, Kurebayashi J, Otsuki T, Tang CK, Kurosumi M, Yamamoto S, Tanaka K, Doihara H, Shimizu N, Sonoo H PubMed Article URL: http://dx.doi.org/10.1054/bjoc.1999.0875</p>

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