

Product Data Sheet

HER-2 / ErbB2 Antibody (e2-4001 + 3B5)

Tested Species Reactivity	Published Species Reactivity
Human (Hu)	Hamster (Hm)
	Human (Hu)
	Mouse (Ms)
	Rat (Rt)

Tested Applications	Dilution *
Western Blot (WB)	0.5-1.0 µg/ml
Immunofluorescence (IF)	1:50-1:500
Immunocytochemistry (ICC)	1:50-1:500
Immunohistochemistry (Paraffin) (IHC (P))	0.25-0.5 µg/mL
Flow Cytometry (FACS)	1:10-1:100
Immunoprecipitation (IP)	2 µg/ml

Published Applications	Dilution
Western Blot (WB)	See publications
Immunocytochemistry (ICC)	See publications
Immunohistochemistry (IHC)	See publications
Flow Cytometry (FACS)	See publications
Immunoprecipitation (IP)	See publications

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

Details	
Catalog Number:	MA5-14057
Size:	500 µL
Class:	Monoclonal
Type:	Antibody
Clone:	e2-4001 + 3B5
Host / Isotype:	Mouse / IgG1
Immunogen:	Cytoplasmic domain of recombinant human c-erbB-2/HER-2 oncoprotein (e2-4001) and a synthetic peptide from the C-terminus of human c-erbB-2 protein (3B5)

Form Information	
Form:	Liquid
Concentration:	0.1mg/ml
Purification:	Protein G
Storage Buffer:	PBS, pH 7.4, with 0.2% BSA
Preservative:	0.09% sodium azide
Storage Conditions:	4° C

Product Specific Information

MA5-14057 targets HER-2 in IHC (P), IP, ICC/IF, FACS and WB applications and shows reactivity with Human samples.

The MA5-14057 immunogen is cytoplasmic domain of recombinant human c-erbB-2/HER-2 oncoprotein (e2-4001) and a synthetic peptide from the C-terminus of human c-erbB-2 protein (3B5).

General Information

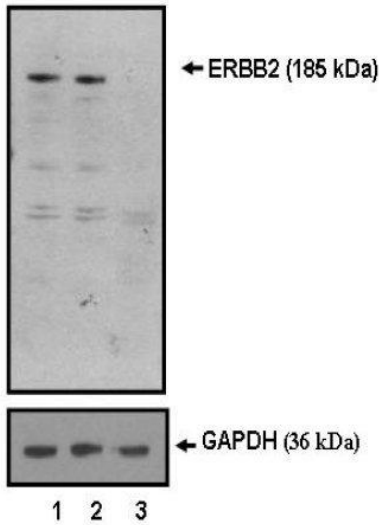
This gene encodes a member of the epidermal growth factor (EGF) receptor family of receptor tyrosine kinases. This protein has no ligand binding domain of its own and therefore cannot bind growth factors. However, it does bind tightly to other ligand-bound EGF receptor family members to form a heterodimer, stabilizing ligand binding and enhancing kinase-mediated activation of downstream signalling pathways, such as those involving mitogen-activated protein kinase and phosphatidylinositol-3 kinase. Allelic variations at amino acid positions 654 and 655 of isoform a (positions 624 and 625 of isoform b) have been reported, with the most common allele, Ile654/Ile655, shown here. Amplification and/or overexpression of this gene has been reported in numerous cancers, including breast and ovarian tumors. Alternative splicing results in several additional transcript variants, some encoding different isoforms and others that have not been fully characterized.

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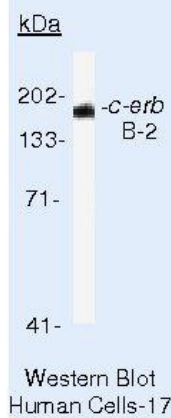
Western Blot with anti-HER-2 / ErbB2 Monoclonal Antibody [e2-4001 + 3B5] (MA5-14057)

A549 cells were lysed 72 hours after transfection. Cells were transfected with Transfection Reagent alone (Lane 1), 100nM ON-TARGETplus siCONTROL Non-Targeting Pool (Lane 2), or 100nM ON-TARGETplus ERBB2 siRNA (Lane 3). Western blot data for GAPDH is included as a control for equal protein loading.



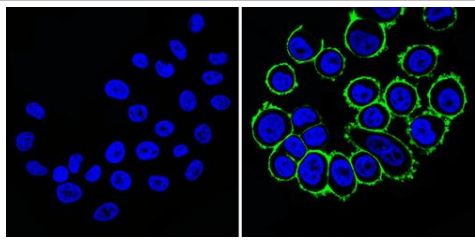
Western Blot with anti-HER-2 / ErbB2 Monoclonal Antibody [e2-4001 + 3B5] (MA5-14057)

Western blot of HER-2 using HER-2 Monoclonal Antibody (MA5-14057) on LS174T Cells.



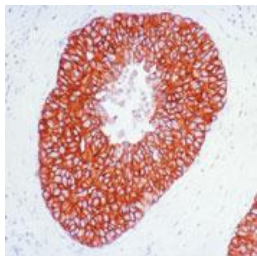
Immunofluorescence with anti-HER-2 / ErbB2 Monoclonal Antibody [e2-4001 + 3B5] (MA5-14057)

Immunofluorescent analysis of HER-2/ErbB2 (green) showing membrane staining in SK-BR-3 cells (right) compared to a negative control without primary antibody (left). Cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with a HER-2/ErbB2 monoclonal antibody (Product # MA5-14057) in 3% BSA-PBS at a dilution of 1:100 and incubated overnight at 4°C in a humidified chamber. Cells were washed with PBST and incubated with a DyLight-488 conjugated secondary antibody in PBS at room temperature in the dark. Nuclei were stained with DAPI (blue) and images were taken at a magnification of 60x.



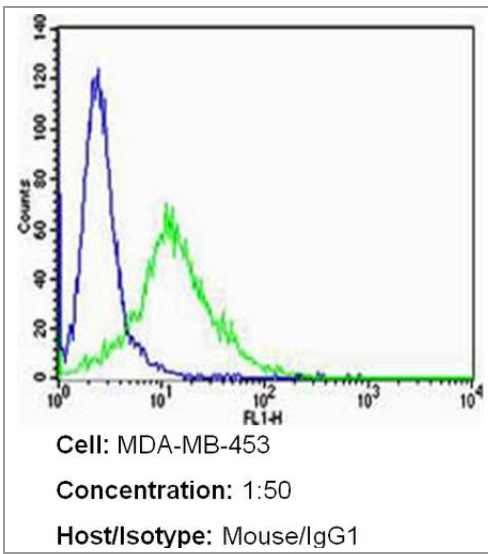
Immunohistochemistry with anti-HER-2 / ErbB2 Monoclonal Antibody [e2-4001 + 3B5] (MA5-14057)

Formalin-fixed, paraffin-embedded human breast carcinoma stained with c-erbB2 antibody using peroxidase-conjugate and DAB chromogen. Note cell membrane staining of tumor cells.



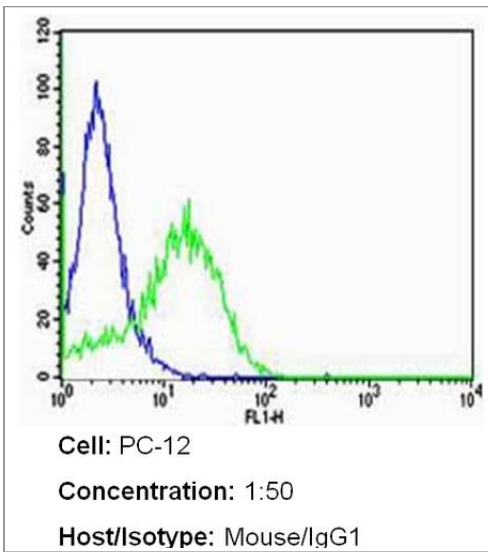
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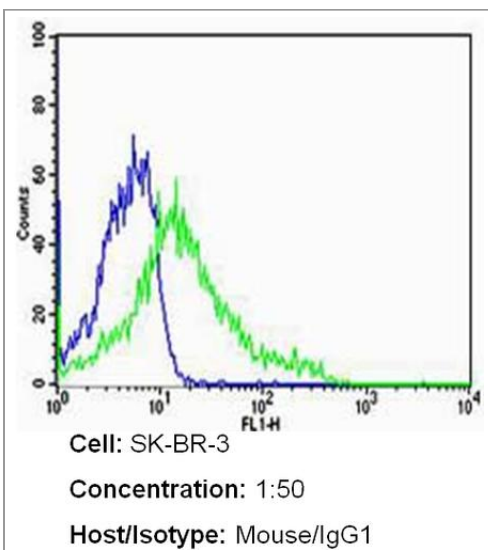
Flow Cytometry with anti-HER-2 / ErbB2 Monoclonal Antibody [e2-4001 + 3B5] (MA5-14057)

Flow cytometry analysis of HER-2/ErbB2 in MDA-MB-453 cells (green) compared to an isotype control (blue). Cells were harvested, adjusted to a concentration of $1-5 \times 10^6$ cells/ml, fixed with 2% paraformaldehyde and washed with PBS. Cells were blocked with a 2% solution of BSA-PBS for 30 min at room temperature and incubated with a HER-2/ErbB2 monoclonal antibody (Product # MA5-14057) at a dilution of 1:50 for 60 min at room temperature. Cells were then incubated for 40 min at room temperature in the dark using a Dylight 488-conjugated secondary antibody and re-suspended in PBS for FACS analysis.



Flow Cytometry with anti-HER-2 / ErbB2 Monoclonal Antibody [e2-4001 + 3B5] (MA5-14057)

Flow cytometry analysis of HER-2/ErbB2 in PC-12 cells (green) compared to an isotype control (blue). Cells were harvested, adjusted to a concentration of $1-5 \times 10^6$ cells/ml, fixed with 2% paraformaldehyde and washed with PBS. Cells were blocked with a 2% solution of BSA-PBS for 30 min at room temperature and incubated with a HER-2/ErbB2 monoclonal antibody (Product # MA5-14057) at a dilution of 1:50 for 60 min at room temperature. Cells were then incubated for 40 min at room temperature in the dark using a Dylight 488-conjugated secondary antibody and re-suspended in PBS for FACS analysis.



Flow Cytometry with anti-HER-2 / ErbB2 Monoclonal Antibody [e2-4001 + 3B5] (MA5-14057)

Flow cytometry analysis of HER-2/ErbB2 in SK-BR-3 cells (green) compared to an isotype control (blue). Cells were harvested, adjusted to a concentration of $1-5 \times 10^6$ cells/ml, fixed with 2% paraformaldehyde and washed with PBS. Cells were blocked with a 2% solution of BSA-PBS for 30 min at room temperature and incubated with a HER-2/ErbB2 monoclonal antibody (Product # MA5-14057) at a dilution of 1:50 for 60 min at room temperature. Cells were then incubated for 40 min at room temperature in the dark using a Dylight 488-conjugated secondary antibody and re-suspended in PBS for FACS analysis.

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22 Western Blot References

Species / Dilution	Summary
Hu / 0.2 ug/ml	MA5-14057 was used in western blot to study the role of p38 MAP kinase in the induction of apoptosis in androgen-independent prostate cancer cells by the EGFR inhibitor typhostin AG825 Cancer Res. 2001 Oct 15;61(20):7408-12. "Typhostin AG825 triggers p38 mitogen-activated protein kinase-dependent apoptosis in androgen-independent prostate cancer cells C4 and C4-2." Author(s): Murillo H, Schmidt LJ, Tindall DJ Number of Citations: 8 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/11606371
Hu / 1 ug/ml	MA5-14057 was used in immunocytochemistry and western blot to investigate the association of ErbB1 and ErbB2 with cytoskeleton during differentiation of human keratinocytes Biochem Biophys Res Commun. 2002 Aug 2;295(5):1108-17. "Differential cytoskeletal association of ErbB1 and ErbB2 during keratinocyte differentiation." Author(s): Kansra S, Stoll SW, Elder JT Number of Citations: 1 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/12135609
Hu / Not Cited	MA5-14057 was used in western blot to study the role of endogenously overexpressed EGF receptors in glioblastoma cells Int J Cancer. 2003 Mar 10;104(1):19-27. "Spontaneous activation and signaling by overexpressed epidermal growth factor receptors in glioblastoma cells." Author(s): Thomas CY, Chouinard M, Cox M, Parsons S, Stallings-Mann M, Garcia R, Jove R, Wharen R Number of Citations: 9 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/12532415
Hu / Not Cited	MA5-14057 was used in western blot to investigate the translocation of ErbB2 to the apical surface in polarized epithelial cells J Biol Chem. 2003 Aug 8;278(32):30142-7. "Muc4/sialomucin complex, the intramembrane ErbB2 ligand, translocates ErbB2 to the apical surface in polarized epithelial cells." Author(s): Ramsauer VP, Carraway CA, Salas PJ, Carraway KL Number of Citations: 1 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/12748185
Hu / Not Cited	MA5-14057 was used in western blot to study the ability of heregulin and HER2 signaling to upregulate c-Src tyrosine 215 phosphorylation and subsequently upregulate FAK tyrosine 861 phosphorylation in breast cancer cells FEBS Lett. 2003 May 22;543(1-3):76-80. "Heregulin and HER2 signaling selectively activates c-Src phosphorylation at tyrosine 215." Author(s): Vadlamudi RK, Sahin AA, Adam L, Wang RA, Kumar R Number of Citations: 24 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/12753909
Hu / 1 ug/ml	MA5-14057 was used in western blot to investigate the mechanism of ERK autocrine activation in normal human keratinocytes Mol Biol Cell. 2004 Sep;15(9):4299-309. "Autocrine extracellular signal-regulated kinase (ERK) activation in normal human keratinocytes: metalloproteinase-mediated release of amphiregulin triggers signaling from ErbB1 to ERK." Author(s): Kansra S, Stoll SW, Johnson JL, Elder JT Number of Citations: 1 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/15254267
Hu / Not Cited	MA5-14057 was used in western blot to investigate the function of ErbB2 in the regulation of cell migration during corneal epithelial wound healing Invest Ophthalmol Vis Sci. 2004 Dec;45(12):4277-83. "Role of ErbB2 in Corneal Epithelial Wound Healing." Author(s): Xu KP, Riggs A, Ding Y, Yu FS Number of Citations: 1 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/15557433

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Hu / 1:200

MA5-14057 was used in western blot to study the effects of vitamin D receptor agonists on androgen-dependent LNCaP human prostate cancer cell growth

J Steroid Biochem Mol Biol. 2005 Oct;97(1-2):37-46.

"Vitamin D receptor agonists induce prostatic acid phosphatase to reduce cell growth and HER-2 signaling in LNCaP-derived human prostate cancer cells."

Author(s): Stewart LV, Lyles B, Lin MF, Weigel NL

Number of Citations: 3

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/16076555>

Hu / Not Cited

MA5-14057 was used in western blot to study the ability of erlotinib to directly inhibit HER2 kinase in intact cells lacking EGFR

Cancer Res. 2007 Feb 1;67(3):1228-38.

"Erlotinib directly inhibits HER2 kinase activation and downstream signaling events in intact cells lacking epidermal growth factor receptor expression."

Author(s): Schaefer G, Shao L, Totpal K, Akita RW

Number of Citations: 19

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/17283159>

Hu / Not Cited

MA5-14057 was used in western blot to study the mechanism by which breast tumor kinase regulates the activation of ERK5 and p38 MAP kinases in breast cancer cells

Cancer Res. 2007 May 1;67(9):4199-209.

"Breast tumor kinase (protein tyrosine kinase 6) regulates heregulin-induced activation of ERK5 and p38 MAP kinases in breast cancer cells."

Author(s): Ostrander JH, Daniel AR, Lofgren K, Kleer CG, Lange CA

Number of Citations: 41

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/17483331>

Hu / Not Cited

MA5-14057 was used in western blot to investigate the binding patterns of monoclonal antibody 2C4 to the ErbB3-Her2 and the EGFR-Her2 complexes

Oncogene. 2008 Jun 19;27(27):3870-4.

"Differential binding patterns of monoclonal antibody 2C4 to the ErbB3-p185her2/neu and the EGFR-p185her2/neu complexes."

Author(s): Cai Z, Zhang G, Zhou Z, Bembas K, Drebin JA, Greene MI, Zhang H

Number of Citations: 1

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/18264138>

Hu / Not Cited

MA5-14057 was used in immunoprecipitation and western blot to examine the role of E-cadherin and ADAM15 in ErbB receptor signaling

J Biol Chem. 2008 Jun 27;283(26):18393-401.

"The ectodomain shedding of E-cadherin by ADAM15 supports ErbB receptor activation."

Author(s): Najj AJ, Day KC, Day ML

Number of Citations: 21

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/18434311>

Hu / 1:1000

MA5-14057 was used in immunohistochemistry and western blot to investigate the effectiveness of a novel method for pancreatic cancer treatment

Hum Gene Ther. 2010 Feb;21(2):157-70.

"Enhanced pancreatic cancer gene therapy by combination of adenoviral vector expressing c-erb-B2 (Her-2/neu)-targeted immunotoxin with a replication-competent adenovirus or etoposide."

Author(s): Liu X, Li J, Tian Y, Xu P, Chen X, Xie K, Qiu Z, Wang Y, Zhang D, Wolf F, Li C, Huang Q

Number of Citations: 1

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/19751100>

Hu / 0

MA5-14057 was used in western blot to investigate the mechanism for the reponse of ErbB2 signaling to Muc4

J Cell Physiol. 2010 Sep;224(3):649-57.

"Mechanistic and signaling analysis of Muc4-ErbB2 signaling module: new insights into the mechanism of ligand-independent ErbB2 activity."

Author(s): Kozloski GA, Carraway CA, Carraway KL

Number of Citations: 1

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/20432461>

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Hu / 0	<p>MA5-14057 was used in western blot to evaluate the therapeutic effect of an HSP-90 inhibitor on MET-amplified cancer cells</p> <hr/> <p>Clin Cancer Res. 2011 Jan 1;17(1):122-33. "Antitumor activity of SNX-2112, a synthetic heat shock protein-90 inhibitor, in MET-amplified tumor cells with or without resistance to selective MET Inhibition." Author(s): Bacheleithner-Hofmann T, Sun MY, Chen CT, Liska D, Zeng Z, Viale A, Olshen AB, Mittlboeck M, Christensen JG, Rosen N, Solit DB, Weiser MR Number of Citations: 1 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/21208906</p>
Hu / Not Cited	<p>MA5-14057 was used in western blot to develop a cell-based screening system to identify compounds that inhibit influenza A viral RNA transcription/replication</p> <hr/> <p>Sci Rep. 2013;3():1106. "A cell-based screening system for influenza A viral RNA transcription/replication inhibitors." Author(s): Ozawa M, Shimojima M, Goto H, Watanabe S, Hatta Y, Kiso M, Furuta Y, Horimoto T, Peters NR, Hoffmann FM, Kawaoka Y Number of Citations: 0 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/23346363</p>
Hu / 1:500	<p>MA5-14057 was used in western blot to study the pharmacodynamics of afatinib in HER2-positive gastric cancer using PET</p> <hr/> <p>J Nucl Med. 2013 Jun;54(6):936-43. "Monitoring afatinib treatment in HER2-positive gastric cancer with 18F-FDG and 89Zr-trastuzumab PET." Author(s): Janjigian YY, Viola-Villegas N, Holland JP, Divilov V, Carlin SD, Gomes-DaGama EM, Chiosis G, Carbonetti G, de Stanchina E, Lewis JS Number of Citations: 4 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/23578997</p>
Ms / Not Cited	<p>MA5-14057 was used in immunohistochemistry and western blot to investigate the effect of N-cadherin misexpression in mice</p> <hr/> <p>J Cell Biochem. 2005 Aug 15;95(6):1093-107. "Effect of N-cadherin misexpression by the mammary epithelium in mice." Author(s): Knudsen KA, Sauer C, Johnson KR, Wheelock MJ Number of Citations: 1 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/15838877</p>
Ms / Not Cited	<p>MA5-14057 was used in western blot to investigate the role of CD90+ cancer stem cells in gastric tumorigenesis and its therapeutic implications</p> <hr/> <p>Oncogene. 2012 Feb 9;31(6):671-82. "Trastuzumab (herceptin) targets gastric cancer stem cells characterized by CD90 phenotype." Author(s): Jiang J, Zhang Y, Chuai S, Wang Z, Zheng D, Xu F, Zhang Y, Li C, Liang Y, Chen Z Number of Citations: 2 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/21743497</p>
Rt / Not Cited	<p>MA5-14057 was used in western blot to investigate the role of ErbB4 receptor in fetal rat lung fibroblasts and epithelial type II cells</p> <hr/> <p>Biochim Biophys Acta. 2007 Jul;1772(7):737-47. "The ErbB4 receptor in fetal rat lung fibroblasts and epithelial type II cells." Author(s): Liu W, Zscheppang K, Murray S, Nielsen HC, Dammann CE Number of Citations: 5 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/17553674</p>
Rt / 1 ug/ml	<p>MA5-14057 was used in western blot to examine the mechanism for opposite EGF responses among different species</p> <hr/> <p>Am J Physiol Renal Physiol. 2007 Sep;293(3):F895-903. "Species differences in renal Src activity direct EGF receptor regulation in life or death response to EGF." Author(s): Kiley SC, Chevalier RL Number of Citations: 2 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/17626154</p>
Rt / 5 ug/ml	<p>MA5-14057 was used in western blot to examine the ErbB2 localization in vestibular schwannoma and schwann cells</p> <hr/> <p>Otol Neurotol. 2008 Jan;29(1):79-85. "Lipid raft localization of ErbB2 in vestibular schwannoma and schwann cells." Author(s): Brown KD, Hansen MR Number of Citations: 3 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/18199961</p>

2 Immunocytochemistry References

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Species / Dilution	Summary
Hu / Not Cited	<p>MA5-14057 was used in immunocytochemistry and western blot to investigate the association of ErbB1 and ErbB2 with cytoskeleton during differentiation of human keratinocytes</p> <hr/> <p>Biochem Biophys Res Commun. 2002 Aug 2;295(5):1108-17. "Differential cytoskeletal association of ErbB1 and ErbB2 during keratinocyte differentiation." Author(s): Kansra S, Stoll SW, Elder JT Number of Citations: 1 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/12135609</p>
Hu / Not Cited	<p>MA5-14057 was used in immunocytochemistry to investigate the mechanism of trastuzumab-induced immune response against esophageal adenocarcinoma</p> <hr/> <p>PLoS One. 2010 Aug 26;5(8):e12424. "Trastuzumab mediated T-cell response against HER-2/neu overexpressing esophageal adenocarcinoma depends on intact antigen processing machinery." Author(s): Milano F, Guarriera M, Rygiel AM, Krishnadath KK Number of Citations: 1 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/20865050</p>
34 Immunohistochemistry References	
Species / Dilution	Summary
Hm / Not Cited	<p>MA5-14057 was used in immunohistochemistry to investigate the effect of repeated DNA vaccinations against ERBB2 on chemical carcinogenesis in hamsters</p> <hr/> <p>Cancer Prev Res (Phila). 2011 Jul;4(7):994-1001. "A DNA vaccine against ERBB2 impairs chemical carcinogenesis in random-bred hamsters." Author(s): Berta GN, Sprio AE, Iezzi M, Spadaro M, Cappia S, Salamone P, Di Scipio F, Mognetti B, Papotti M, Musiani P, Forni G, Cavallo F Number of Citations: 1 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/21733823</p>
Hu / 0	<p>MA5-14057 was used in immunohistochemistry to study the clinical effect of a docetaxel and trastuzumab combination treatment in HER-2-overexpressing metastatic breast cancer</p> <hr/> <p>J Clin Oncol. 2002 Apr 1;20(7):1800-8. "Phase II study of weekly docetaxel and trastuzumab for patients with HER-2-overexpressing metastatic breast cancer." Author(s): Esteva FJ, Valero V, Booser D, Guerra LT, Murray JL, Pusztai L, Cristofanilli M, Arun B, Esmaeli B, Fritsche HA, Sneige N, Smith TL, Hortobagyi GN Number of Citations: 59 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/11919237</p>
Hu / 1:50	<p>MA5-14057 was used in immunohistochemistry to investigate the prognostic usefulness of c-erbB-2 for colorectal cancer</p> <hr/> <p>Cancer Lett. 2002 Oct 28;184(2):215-22. "Clinical significance of serum and urinary c-erbB-2 levels in colorectal cancer." Author(s): Tsigris C, Karayiannakis AJ, Zbar A, Syrigos KN, Baibas N, Diamantis T, Alexiou D Number of Citations: 0 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/12127694</p>
Hu / 1:10000	<p>MA5-14057 was used in immunohistochemistry to study whether refining the grading of low-grade neuroendocrine tumors of the midgut and unknown origin is of prognostic/predictive value</p> <hr/> <p>Hum Pathol. 2002 Nov;33(11):1126-32. "Classification of low-grade neuroendocrine tumors of midgut and unknown origin." Author(s): Van Eeden S, Quaedvlieg PF, Taal BG, Offerhaus GJ, Lamers CB, Van Velthuysen ML Number of Citations: 12 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/12454818</p>
Hu / Not Cited	<p>MA5-14057 was used in immunohistochemistry to study whether early assessment of apoptosis following breast cancer neoadjuvant chemotherapy predicts clinical response</p> <hr/> <p>Clin Cancer Res. 2003 Mar;9(3):955-60. "Automated quantification of apoptosis after neoadjuvant chemotherapy for breast cancer: early assessment predicts clinical response." Author(s): Davis DW, Buchholz TA, Hess KR, Sahin AA, Valero V, McConkey DJ Number of Citations: 8 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/12631592</p>

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Hu / Not Cited

MA5-14057 was used in immunohistochemistry to study the histopathology and immunohistochemistry of breast carcinoma in pregnant women

Cancer. 2003 Sep 1;98(5):1055-60.

"Breast carcinoma in pregnant women: assessment of clinicopathologic and immunohistochemical features."

Author(s): Middleton LP, Amin M, Gwyn K, Theriault R, Sahin A

Number of Citations: 16

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/12942575>

Hu / 1:150

MA5-14057 was used in immunohistochemistry to study the inability of immunohistochemistry to predict clinical outcome in endometrial cancer

Int J Gynecol Cancer. 2004 Jan-Feb;14(1):145-51.

"Inability of immunohistochemistry to predict clinical outcomes of endometrial cancer patients."

Author(s): Gossett DR, Alo P, Bristow RE, Galati M, Kyshtoobayeva A, Fruehauf J, Montz FJ

Number of Citations: 0

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/14764043>

Hu / 1:700

MA5-14057 was used in immunohistochemistry to characterize 11 cases of ductal carcinoma in situ with spindle cells

Histopathology. 2004 Oct;45(4):343-51.

"Ductal carcinoma in situ with spindle cells: a potential diagnostic pitfall in the evaluation of breast lesions."

Author(s): Tan PH, Lui GG, Chiang G, Yap WM, Poh WT, Bay BH

Number of Citations: 1

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/15469472>

Hu / 1:2000

MA5-14057 was used in immunohistochemistry to report the clinical cases of cystic hypersecretory carcinoma

Histopathology. 2005 Jan;46(1):43-9.

"Cystic hypersecretory carcinoma: rare and poorly recognized variant of intraductal carcinoma of the breast. Report of five cases."

Author(s): Skalova A, Ryska A, Kajo K, Di Palma S, Kinkor Z, Michal M

Number of Citations: 1

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/15656885>

Hu / 1:2000

MA5-14057 was used in immunohistochemistry to characterize non-invasive carcinoma ex pleomorphic adenoma through HER-2/neu and MIB1 expression

Histopathology. 2005 Feb;46(2):144-52.

"Non-invasive (intracapsular) carcinoma ex pleomorphic adenoma: recognition of focal carcinoma by HER-2/neu and MIB1 immunohistochemistry."

Author(s): Di Palma S, Skálová A, Vaniček T, Simpson RH, Stárek I, Leivo I

Number of Citations: 4

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/15693886>

Hu / 0

MA5-14057 was used in immunohistochemistry to study the prognostic significance of CD44 expression in node-negative invasive breast carcinoma

Clin Cancer Res. 2005 May 1;11(9):3309-14.

"CD44 expression is associated with increased survival in node-negative invasive breast carcinoma."

Author(s): Diaz LK, Zhou X, Wright ET, Cristofanilli M, Smith T, Yang Y, Sneige N, Sahin A, Gilcrease MZ

Number of Citations: 14

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/15867228>

Hu / 0

MA5-14057 was used in immunohistochemistry to study the relationship between beta4 integrin subunit expression and early breast tumor size and nuclear grade

Mod Pathol. 2005 Sep;18(9):1165-75.

"Beta4 integrin subunit gene expression correlates with tumor size and nuclear grade in early breast cancer."

Author(s): Diaz LK, Cristofanilli M, Zhou X, Welch KL, Smith TL, Yang Y, Sneige N, Sahin AA, Gilcrease MZ

Number of Citations: 5

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/15920552>

Hu / 1:500

MA5-14057 was used in immunohistochemistry to investigate the expression of the fragile gene in breast cancer development

Pathol Int. 2005 Aug;55(8):471-8.

"Concordant loss of fragile gene expression early in breast cancer development."

Author(s): Guler G, Uner A, Guler N, Han SY, Iliopoulos D, McCue P, Huebner K

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PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/15998374>

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Hu / 1:300

MA5-14057 was used in immunohistochemistry to study CXCR4 receptor expression in breast cancer as a predictive marker for isolated tumor cells in bone marrow

Clin Exp Metastasis. 2005;22(1):39-46.

"Chemokine receptor CXCR4 expression in breast cancer as a potential predictive marker of isolated tumor cells in bone marrow."

Author(s): Cabioglu N, Sahin A, Doucet M, Yavuz E, Igci A, O Yildirim E, Aktas E, Bilgic S, Kiran B, Deniz G, Price JE

Number of Citations: 11

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/16132577>

Hu / 0.5 ug/ml

MA5-14057 was used in immunohistochemistry to investigate the presence and utility of p53 antibodies in patients with breast cancer

Breast Cancer Res Treat. 2005 Sep;93(2):111-5.

"The presence of serum anti-p53 antibodies from patients with invasive ductal carcinoma of breast: correlation to other clinical and biological parameters."

Author(s): Gao RJ, Bao HZ, Yang Q, Cong Q, Song JN, Wang L

Number of Citations: 1

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/16187230>

Hu / 1:2000

MA5-14057 was used in immunohistochemistry to investigate clonality of sclerosing polycystic adenosis by human androgen receptor polymorphism

Am J Surg Pathol. 2006 Aug;30(8):939-44.

"Clonal nature of sclerosing polycystic adenosis of salivary glands demonstrated by using the polymorphism of the human androgen receptor (HUMARA) locus as a marker."

Author(s): Skálová A, Gnepp DR, Simpson RH, Lewis JE, Janssen D, Sima R, Vanecek T, Di Palma S, Michal M

Number of Citations: 2

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/16861963>

Hu / 0

MA5-14057 was used in immunohistochemistry to study breast cancer survival and tumor characteristics in premenopausal women carrying the CHEK2*1100delC germline mutation

J Clin Oncol. 2007 Jan 1;25(1):64-9.

"Breast cancer survival and tumor characteristics in premenopausal women carrying the CHEK2*1100delC germline mutation."

Author(s): Schmidt MK, Tollenaar RA, de Kemp SR, Broeks A, Cornelisse CJ, Smit VT, Peterse JL, van Leeuwen FE, Van't Veer LJ

Number of Citations: 14

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/17132695>

Hu / 1:100

MA5-14057 was used in immunohistochemistry to study the value of serum HER-2 receptor extracellular domain measurements for predicting the response to chemotherapy in primary breast cancer patients

Cancer. 2007 Feb 1;109(3):496-501.

"Kinetics of serum HER-2/neu changes in patients with HER-2-positive primary breast cancer after initiation of primary chemotherapy."

Author(s): Mazouni C, Hall A, Broglio K, Fritsche H, Andre F, Esteva FJ, Hortobagyi GN, Buzdar AU, Pusztai L, Cristofanilli M

Number of Citations: 11

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/17149760>

Hu / 1:3000

MA5-14057 was used in immunohistochemistry to study triple negative breast carcinoma histopathology and gene expression patterns in order to define clinically significant sub-groups

Breast Cancer Res. 2007;9(5):R65.

"Gene expression profiling and histopathological characterization of triple-negative/basal-like breast carcinomas."

Author(s): Kreike B, van Kouwenhove M, Horlings H, Weigelt B, Peterse H, Bartelink H, van de Vijver MJ

Number of Citations: 108

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/17910759>

Hu / Not Cited

MA5-14057 was used in immunohistochemistry to investigate the association of expression of various members of ErbB family receptors with progression of urothelial carcinoma

J Urol. 2008 Jan;179(1):353-8.

"Distinctive expression pattern of ErbB family receptors signifies an aggressive variant of bladder cancer."

Author(s): Kassouf W, Black PC, Tuziak T, Bondaruk J, Lee S, Brown GA, Adam L, Wei C, Baggerly K, Bar-Eli M, McConkey D, Czerniak B, Dinney CP

Number of Citations: 1

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/18006009>

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Hu / 1:250

MA5-14057 was used in immunohistochemistry to report on a case of primary neuroendocrine carcinoma of the breast

Tumori. 2007 Sep-Oct;93(5):496-8.

"Primary neuroendocrine carcinoma of the breast: a case report."

Author(s): Yaren A, Kelten C, Akbulut M, Teke Z, Duzcan E, Erdem E

Number of Citations: 1

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/18038885>

Hu / Not Cited

MA5-14057 was used in immunohistochemistry to perform immunohistochemical studies of apocrine carcinomas in Turkish women with breast cancer

Pathol Res Pract. 2008;204(6):367-71.

"Apocrine carcinomas of the breast in Turkish women: hormone receptors, c-erbB-2 and p53 immunoexpression."

Author(s): Kaya H, Bozkurt SU, Erbarut I, Djamgoz MB

Number of Citations: 1

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/18342452>

Hu / 0

MA5-14057 was used in flow cytometry and immunohistochemistry to develop a co-culture model from an invasive lobular carcinoma for the evaluation of therapeutic agents

BMC Cancer. 2008 Apr 24;8():119.

"A stable explant culture of HER2/neu invasive carcinoma supported by alpha-Smooth Muscle Actin expressing stromal cells to evaluate therapeutic agents."

Author(s): Piechocki MP

Number of Citations: 0

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/18435859>

Hu / 0.5 ug/ml

MA5-14057 was used in immunohistochemistry to investigate the prognostic markers of taxane-based and anthracycline-based neoadjuvant chemotherapy for breast carcinoma

Anticancer Drugs. 2008 Mar;19(3):317-23.

"Predictive value of serum anti-p53 antibodies, carcino-embryonic antigen, carbohydrate antigen 15-3, estrogen receptor, progesterone receptor and human epidermal growth factor receptor-2 in taxane-based and anthracycline-based neoadjuvant chemotherapy in locally advanced breast cancer patients."

Author(s): Bao H, Yu D, Wang J, Qiu T, Yang J, Wang L

Number of Citations: 0

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/18510179>

Hu / Not Cited

MA5-14057 was used in immunohistochemistry to investigate the effect of race on the therapeutic outcome from the treatment of triple receptor-negative breast cancer

J Clin Oncol. 2009 Jan 10;27(2):220-6.

"Triple receptor-negative breast cancer: the effect of race on response to primary systemic treatment and survival outcomes."

Author(s): Dawood S, Broglio K, Kau SW, Green MC, Giordano SH, Meric-Bernstam F, Buchholz TA, Albarracin C, Yang WT, Hennessy BT, Hortobagyi GN, Gonzalez-Angulo AM

Number of Citations: 10

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/19047281>

Hu / 1:100

MA5-14057 was used in immunohistochemistry to study the immunohistochemistry of subtypes of male breast carcinoma.

Breast Cancer Res. 2009;11(3):R28.

"Immunohistochemical characterization of subtypes of male breast carcinoma."

Author(s): Ge Y, Sneige N, Eltorkey MA, Wang Z, Lin E, Gong Y, Guo M

Number of Citations: 5

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/19442295>

Hu / 1:400

MA5-14057 was used in immunohistochemistry and western blot to investigate the effectiveness of a novel method for pancreatic cancer treatment

Hum Gene Ther. 2010 Feb;21(2):157-70.

"Enhanced pancreatic cancer gene therapy by combination of adenoviral vector expressing c-erb-B2 (Her-2/neu)-targeted immunotoxin with a replication-competent adenovirus or etoposide."

Author(s): Liu X, Li J, Tian Y, Xu P, Chen X, Xie K, Qiu Z, Wang Y, Zhang D, Wolf F, Li C, Huang Q

Number of Citations: 1

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/19751100>

Hu / Not Cited

MA5-14057 was used in immunohistochemistry to investigate the HER2 status in a breast cancer population

Breast Cancer Res Treat. 2011 Jan;125(2):553-61.

"HER2 status in a population-derived breast cancer cohort: discordances during tumor progression."

Author(s): Wilking U, Karlsson E, Skoog L, Hatschek T, Lidbrink E, Elmberger G, Johansson H, Lindström L, Bergh J

Number of Citations: 2

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/20628810>

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Hu / 1:1	<p>MA5-14057 was used in immunohistochemistry to identify biomarkers that predict the recurrence of benign meningiomas</p> <p>Br J Neurosurg. 2011 Dec;25(6):707-13. "Recurrence of benign meningiomas: predictive value of proliferative index, BCL2, p53, hormonal receptors and HER2 expression." Author(s): Abdelzaher E, El-Gendi SM, Yehya A, Gowil AG Number of Citations: 1 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/20979437</p>
Hu / Not Cited	<p>MA5-14057 was used in immunohistochemistry to identify the relationship between oncoprotein expression and clinical symptoms of carcinoma</p> <p>Med Oncol. 2012 Jun;29(2):734-41. "Prognostic value of oncoprotein expressions in thyroid papillary carcinoma." Author(s): Baltaz AZ, Filiz AI, Kurt Y, Sucullu I, Yucel E, Akin ML Number of Citations: 0 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/21547408</p>
Hu / 1:200	<p>MA5-14057 was used in immunohistochemistry to study the prognostic value of stromal caveolin-1 in breast cancer</p> <p>Pathol Oncol Res. 2012 Apr;18(2):459-69. "Stromal caveolin-1 expression in breast carcinoma. Correlation with early tumor recurrence and clinical outcome." Author(s): El-Gendi SM, Mostafa MF, El-Gendi AM Number of Citations: 4 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/22057638</p>
Hu / 1:400	<p>MA5-14057 was used in immunohistochemistry to study six cases of mixed epithelial and mesenchymal type metaplastic breast carcinoma with myoepithelial differentiation</p> <p>Pathol Res Pract. 2012 Mar 15;208(3):147-50. "Clinicopathologic features of the mixed epithelial and mesenchymal type metaplastic breast carcinoma with myoepithelial differentiation in a subset of six cases." Author(s): Yigit S, Pehlivan FS, Evcim G, Etit D Number of Citations: 0 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/22361036</p>
Ms / Not Cited	<p>MA5-14057 was used in immunohistochemistry and western blot to investigate the effect of N-cadherin misexpression in mice</p> <p>J Cell Biochem. 2005 Aug 15;95(6):1093-107. "Effect of N-cadherin misexpression by the mammary epithelium in mice." Author(s): Knudsen KA, Sauer C, Johnson KR, Wheelock MJ Number of Citations: 1 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/15838877</p>
Ms / Not Cited	<p>MA5-14057 was used in immunohistochemistry to study the role of merlin on receptor accumulation and signaling at the plasma membrane in normal and tumorigenic Schwann cells</p> <p>Oncogene. 2009 Feb 12;28(6):854-65. "Merlin regulates transmembrane receptor accumulation and signaling at the plasma membrane in primary mouse Schwann cells and in human schwannomas." Author(s): Lallemand D, Manent J, Couvelard A, Watilliaux A, Siena M, Chareyre F, Lampin A, Niwa-Kawakita M, Kalamarides M, Giovannini M Number of Citations: 17 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/19029950</p>
1 Flow Cytometry Reference	
Species / Dilution	Summary
Ms / 0	<p>MA5-14057 was used in flow cytometry and immunohistochemistry to develop a co-culture model from an invasive lobular carcinoma for the evaluation of therapeutic agents</p> <p>BMC Cancer. 2008 Apr 24;8():119. "A stable explant culture of HER2/neu invasive carcinoma supported by alpha-Smooth Muscle Actin expressing stromal cells to evaluate therapeutic agents." Author(s): Piechocki MP Number of Citations: 0 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/18435859</p>
1 Immunoprecipitation Reference	
Species / Dilution	Summary

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Hu / Not Cited

MA5-14057 was used in immunoprecipitation and western blot to examine the role of E-cadherin and ADAM15 in ErbB receptor signaling

J Biol Chem. 2008 Jun 27;283(26):18393-401.

"The ectodomain shedding of E-cadherin by ADAM15 supports ErbB receptor activation."

Author(s): Najy AJ, Day KC, Day ML

Number of Citations: 21

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/18434311>

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Product Data Sheet

HER-2 / ErbB2 Antibody (e2-4001 + 3B5)

Tested Species Reactivity	Published Species Reactivity
Human (Hu)	Hamster (Hm)
	Human (Hu)
	Mouse (Ms)
	Rat (Rt)

Tested Applications	Dilution *
Western Blot (WB)	0.5-1.0 µg/ml
Immunofluorescence (IF)	1:50-1:500
Immunocytochemistry (ICC)	1:50-1:500
Immunohistochemistry (Paraffin) (IHC (P))	0.25-0.5 µg/mL
Flow Cytometry (FACS)	1:10-1:100
Immunoprecipitation (IP)	2 µg/ml

Published Applications	Dilution
Western Blot (WB)	See publications
Immunocytochemistry (ICC)	See publications
Immunohistochemistry (IHC)	See publications
Flow Cytometry (FACS)	See publications
Immunoprecipitation (IP)	See publications

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

Details	
Catalog Number:	MA5-14057
Size:	500 µL
Class:	Monoclonal
Type:	Antibody
Clone:	e2-4001 + 3B5
Host / Isotype:	Mouse / IgG1
Immunogen:	Cytoplasmic domain of recombinant human c-erbB-2/HER-2 oncoprotein (e2-4001) and a synthetic peptide from the C-terminus of human c-erbB-2 protein (3B5)

Form Information	
Form:	Liquid
Concentration:	0.1mg/ml
Purification:	Protein G
Storage Buffer:	PBS, pH 7.4, with 0.2% BSA
Preservative:	0.09% sodium azide
Storage Conditions:	4° C

Product Specific Information

MA5-14057 targets HER-2 in IHC (P), IP, ICC/IF, FACS and WB applications and shows reactivity with Human samples.

The MA5-14057 immunogen is cytoplasmic domain of recombinant human c-erbB-2/HER-2 oncoprotein (e2-4001) and a synthetic peptide from the C-terminus of human c-erbB-2 protein (3B5).

General Information

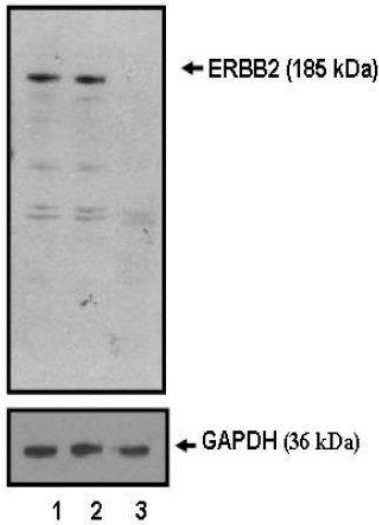
This gene encodes a member of the epidermal growth factor (EGF) receptor family of receptor tyrosine kinases. This protein has no ligand binding domain of its own and therefore cannot bind growth factors. However, it does bind tightly to other ligand-bound EGF receptor family members to form a heterodimer, stabilizing ligand binding and enhancing kinase-mediated activation of downstream signalling pathways, such as those involving mitogen-activated protein kinase and phosphatidylinositol-3 kinase. Allelic variations at amino acid positions 654 and 655 of isoform a (positions 624 and 625 of isoform b) have been reported, with the most common allele, Ile654/Ile655, shown here. Amplification and/or overexpression of this gene has been reported in numerous cancers, including breast and ovarian tumors. Alternative splicing results in several additional transcript variants, some encoding different isoforms and others that have not been fully characterized.

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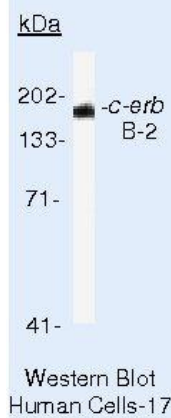
Western Blot with anti-HER-2 / ErbB2 Monoclonal Antibody [e2-4001 + 3B5] (MA5-14057)

A549 cells were lysed 72 hours after transfection. Cells were transfected with Transfection Reagent alone (Lane 1), 100nM ON-TARGETplus siCONTROL Non-Targeting Pool (Lane 2), or 100nM ON-TARGETplus ERBB2 siRNA (Lane 3). Western blot data for GAPDH is included as a control for equal protein loading.



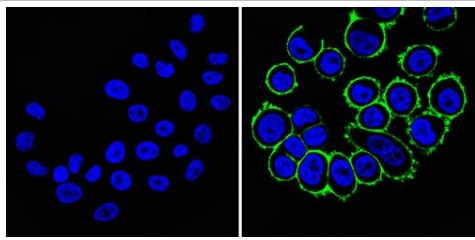
Western Blot with anti-HER-2 / ErbB2 Monoclonal Antibody [e2-4001 + 3B5] (MA5-14057)

Western blot of HER-2 using HER-2 Monoclonal Antibody (MA5-14057) on LS174T Cells.



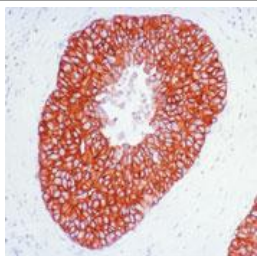
Immunofluorescence with anti-HER-2 / ErbB2 Monoclonal Antibody [e2-4001 + 3B5] (MA5-14057)

Immunofluorescent analysis of HER-2/ErbB2 (green) showing membrane staining in SK-BR-3 cells (right) compared to a negative control without primary antibody (left). Cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with a HER-2/ErbB2 monoclonal antibody (Product # MA5-14057) in 3% BSA-PBS at a dilution of 1:100 and incubated overnight at 4°C in a humidified chamber. Cells were washed with PBST and incubated with a DyLight-488 conjugated secondary antibody in PBS at room temperature in the dark. Nuclei were stained with DAPI (blue) and images were taken at a magnification of 60x.



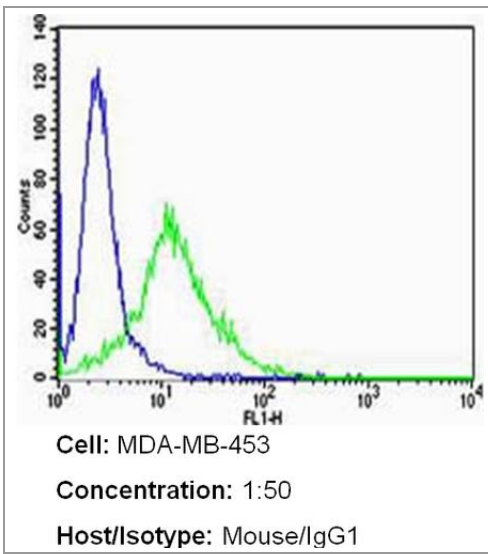
Immunohistochemistry with anti-HER-2 / ErbB2 Monoclonal Antibody [e2-4001 + 3B5] (MA5-14057)

Formalin-fixed, paraffin-embedded human breast carcinoma stained with c-erbB2 antibody using peroxidase-conjugate and DAB chromogen. Note cell membrane staining of tumor cells.



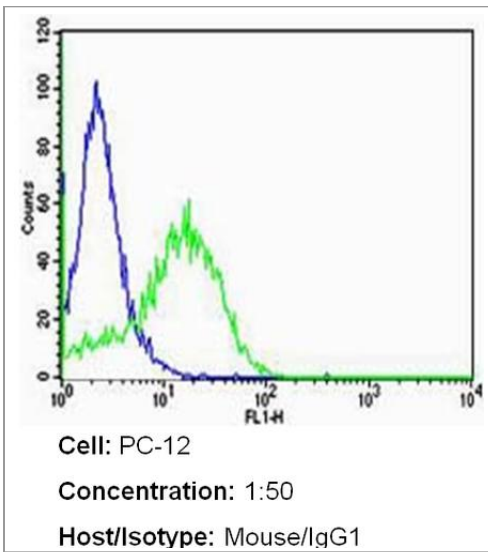
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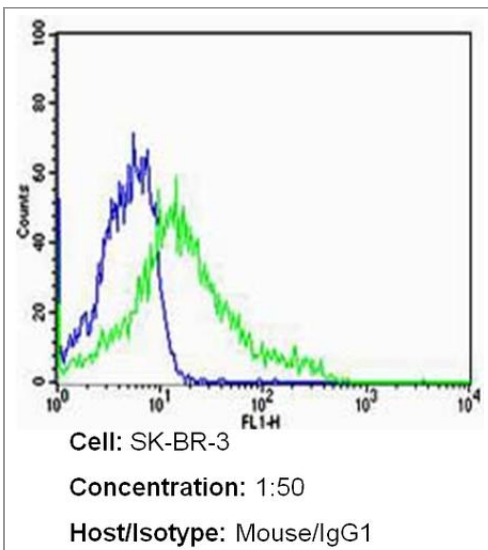
Flow Cytometry with anti-HER-2 / ErbB2 Monoclonal Antibody [e2-4001 + 3B5] (MA5-14057)

Flow cytometry analysis of HER-2/ErbB2 in MDA-MB-453 cells (green) compared to an isotype control (blue). Cells were harvested, adjusted to a concentration of $1-5 \times 10^6$ cells/ml, fixed with 2% paraformaldehyde and washed with PBS. Cells were blocked with a 2% solution of BSA-PBS for 30 min at room temperature and incubated with a HER-2/ErbB2 monoclonal antibody (Product # MA5-14057) at a dilution of 1:50 for 60 min at room temperature. Cells were then incubated for 40 min at room temperature in the dark using a Dylight 488-conjugated secondary antibody and re-suspended in PBS for FACS analysis.



Flow Cytometry with anti-HER-2 / ErbB2 Monoclonal Antibody [e2-4001 + 3B5] (MA5-14057)

Flow cytometry analysis of HER-2/ErbB2 in PC-12 cells (green) compared to an isotype control (blue). Cells were harvested, adjusted to a concentration of $1-5 \times 10^6$ cells/ml, fixed with 2% paraformaldehyde and washed with PBS. Cells were blocked with a 2% solution of BSA-PBS for 30 min at room temperature and incubated with a HER-2/ErbB2 monoclonal antibody (Product # MA5-14057) at a dilution of 1:50 for 60 min at room temperature. Cells were then incubated for 40 min at room temperature in the dark using a Dylight 488-conjugated secondary antibody and re-suspended in PBS for FACS analysis.



Flow Cytometry with anti-HER-2 / ErbB2 Monoclonal Antibody [e2-4001 + 3B5] (MA5-14057)

Flow cytometry analysis of HER-2/ErbB2 in SK-BR-3 cells (green) compared to an isotype control (blue). Cells were harvested, adjusted to a concentration of $1-5 \times 10^6$ cells/ml, fixed with 2% paraformaldehyde and washed with PBS. Cells were blocked with a 2% solution of BSA-PBS for 30 min at room temperature and incubated with a HER-2/ErbB2 monoclonal antibody (Product # MA5-14057) at a dilution of 1:50 for 60 min at room temperature. Cells were then incubated for 40 min at room temperature in the dark using a Dylight 488-conjugated secondary antibody and re-suspended in PBS for FACS analysis.

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22 Western Blot References

Species / Dilution	Summary
Hu / 0.2 ug/ml	MA5-14057 was used in western blot to study the role of p38 MAP kinase in the induction of apoptosis in androgen-independent prostate cancer cells by the EGFR inhibitor typhostin AG825 Cancer Res. 2001 Oct 15;61(20):7408-12. "Typhostin AG825 triggers p38 mitogen-activated protein kinase-dependent apoptosis in androgen-independent prostate cancer cells C4 and C4-2." Author(s): Murillo H, Schmidt LJ, Tindall DJ Number of Citations: 8 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/11606371
Hu / 1 ug/ml	MA5-14057 was used in immunocytochemistry and western blot to investigate the association of ErbB1 and ErbB2 with cytoskeleton during differentiation of human keratinocytes Biochem Biophys Res Commun. 2002 Aug 2;295(5):1108-17. "Differential cytoskeletal association of ErbB1 and ErbB2 during keratinocyte differentiation." Author(s): Kansra S, Stoll SW, Elder JT Number of Citations: 1 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/12135609
Hu / Not Cited	MA5-14057 was used in western blot to study the role of endogenously overexpressed EGF receptors in glioblastoma cells Int J Cancer. 2003 Mar 10;104(1):19-27. "Spontaneous activation and signaling by overexpressed epidermal growth factor receptors in glioblastoma cells." Author(s): Thomas CY, Chouinard M, Cox M, Parsons S, Stallings-Mann M, Garcia R, Jove R, Wharen R Number of Citations: 9 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/12532415
Hu / Not Cited	MA5-14057 was used in western blot to investigate the translocation of ErbB2 to the apical surface in polarized epithelial cells J Biol Chem. 2003 Aug 8;278(32):30142-7. "Muc4/sialomucin complex, the intramembrane ErbB2 ligand, translocates ErbB2 to the apical surface in polarized epithelial cells." Author(s): Ramsauer VP, Carraway CA, Salas PJ, Carraway KL Number of Citations: 1 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/12748185
Hu / Not Cited	MA5-14057 was used in western blot to study the ability of heregulin and HER2 signaling to upregulate c-Src tyrosine 215 phosphorylation and subsequently upregulate FAK tyrosine 861 phosphorylation in breast cancer cells FEBS Lett. 2003 May 22;543(1-3):76-80. "Heregulin and HER2 signaling selectively activates c-Src phosphorylation at tyrosine 215." Author(s): Vadlamudi RK, Sahin AA, Adam L, Wang RA, Kumar R Number of Citations: 24 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/12753909
Hu / 1 ug/ml	MA5-14057 was used in western blot to investigate the mechanism of ERK autocrine activation in normal human keratinocytes Mol Biol Cell. 2004 Sep;15(9):4299-309. "Autocrine extracellular signal-regulated kinase (ERK) activation in normal human keratinocytes: metalloproteinase-mediated release of amphiregulin triggers signaling from ErbB1 to ERK." Author(s): Kansra S, Stoll SW, Johnson JL, Elder JT Number of Citations: 1 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/15254267
Hu / Not Cited	MA5-14057 was used in western blot to investigate the function of ErbB2 in the regulation of cell migration during corneal epithelial wound healing Invest Ophthalmol Vis Sci. 2004 Dec;45(12):4277-83. "Role of ErbB2 in Corneal Epithelial Wound Healing." Author(s): Xu KP, Riggs A, Ding Y, Yu FS Number of Citations: 1 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/15557433

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Hu / 1:200

MA5-14057 was used in western blot to study the effects of vitamin D receptor agonists on androgen-dependent LNCaP human prostate cancer cell growth

J Steroid Biochem Mol Biol. 2005 Oct;97(1-2):37-46.

"Vitamin D receptor agonists induce prostatic acid phosphatase to reduce cell growth and HER-2 signaling in LNCaP-derived human prostate cancer cells."

Author(s): Stewart LV, Lyles B, Lin MF, Weigel NL

Number of Citations: 3

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/16076555>

Hu / Not Cited

MA5-14057 was used in western blot to study the ability of erlotinib to directly inhibit HER2 kinase in intact cells lacking EGFR

Cancer Res. 2007 Feb 1;67(3):1228-38.

"Erlotinib directly inhibits HER2 kinase activation and downstream signaling events in intact cells lacking epidermal growth factor receptor expression."

Author(s): Schaefer G, Shao L, Totpal K, Akita RW

Number of Citations: 19

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/17283159>

Hu / Not Cited

MA5-14057 was used in western blot to study the mechanism by which breast tumor kinase regulates the activation of ERK5 and p38 MAP kinases in breast cancer cells

Cancer Res. 2007 May 1;67(9):4199-209.

"Breast tumor kinase (protein tyrosine kinase 6) regulates heregulin-induced activation of ERK5 and p38 MAP kinases in breast cancer cells."

Author(s): Ostrander JH, Daniel AR, Lofgren K, Kleer CG, Lange CA

Number of Citations: 41

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/17483331>

Hu / Not Cited

MA5-14057 was used in western blot to investigate the binding patterns of monoclonal antibody 2C4 to the ErbB3-Her2 and the EGFR-Her2 complexes

Oncogene. 2008 Jun 19;27(27):3870-4.

"Differential binding patterns of monoclonal antibody 2C4 to the ErbB3-p185her2/neu and the EGFR-p185her2/neu complexes."

Author(s): Cai Z, Zhang G, Zhou Z, Bembas K, Drebin JA, Greene MI, Zhang H

Number of Citations: 1

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/18264138>

Hu / Not Cited

MA5-14057 was used in immunoprecipitation and western blot to examine the role of E-cadherin and ADAM15 in ErbB receptor signaling

J Biol Chem. 2008 Jun 27;283(26):18393-401.

"The ectodomain shedding of E-cadherin by ADAM15 supports ErbB receptor activation."

Author(s): Najj AJ, Day KC, Day ML

Number of Citations: 21

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/18434311>

Hu / 1:1000

MA5-14057 was used in immunohistochemistry and western blot to investigate the effectiveness of a novel method for pancreatic cancer treatment

Hum Gene Ther. 2010 Feb;21(2):157-70.

"Enhanced pancreatic cancer gene therapy by combination of adenoviral vector expressing c-erb-B2 (Her-2/neu)-targeted immunotoxin with a replication-competent adenovirus or etoposide."

Author(s): Liu X, Li J, Tian Y, Xu P, Chen X, Xie K, Qiu Z, Wang Y, Zhang D, Wolf F, Li C, Huang Q

Number of Citations: 1

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/19751100>

Hu / 0

MA5-14057 was used in western blot to investigate the mechanism for the reponse of ErbB2 signaling to Muc4

J Cell Physiol. 2010 Sep;224(3):649-57.

"Mechanistic and signaling analysis of Muc4-ErbB2 signaling module: new insights into the mechanism of ligand-independent ErbB2 activity."

Author(s): Kozloski GA, Carraway CA, Carraway KL

Number of Citations: 1

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/20432461>

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Hu / 0	<p>MA5-14057 was used in western blot to evaluate the therapeutic effect of an HSP-90 inhibitor on MET-amplified cancer cells</p> <hr/> <p>Clin Cancer Res. 2011 Jan 1;17(1):122-33. "Antitumor activity of SNX-2112, a synthetic heat shock protein-90 inhibitor, in MET-amplified tumor cells with or without resistance to selective MET Inhibition." Author(s): Bacheleithner-Hofmann T, Sun MY, Chen CT, Liska D, Zeng Z, Viale A, Olshen AB, Mittlboeck M, Christensen JG, Rosen N, Solit DB, Weiser MR Number of Citations: 1 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/21208906</p>
Hu / Not Cited	<p>MA5-14057 was used in western blot to develop a cell-based screening system to identify compounds that inhibit influenza A viral RNA transcription/replication</p> <hr/> <p>Sci Rep. 2013;3():1106. "A cell-based screening system for influenza A viral RNA transcription/replication inhibitors." Author(s): Ozawa M, Shimojima M, Goto H, Watanabe S, Hatta Y, Kiso M, Furuta Y, Horimoto T, Peters NR, Hoffmann FM, Kawaoka Y Number of Citations: 0 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/23346363</p>
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Hu / 1:1	<p>MA5-14057 was used in immunohistochemistry to identify biomarkers that predict the recurrence of benign meningiomas</p> <p>Br J Neurosurg. 2011 Dec;25(6):707-13. "Recurrence of benign meningiomas: predictive value of proliferative index, BCL2, p53, hormonal receptors and HER2 expression." Author(s): Abdelzaher E, El-Gendi SM, Yehya A, Gowil AG Number of Citations: 1 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/20979437</p>
Hu / Not Cited	<p>MA5-14057 was used in immunohistochemistry to identify the relationship between oncoprotein expression and clinical symptoms of carcinoma</p> <p>Med Oncol. 2012 Jun;29(2):734-41. "Prognostic value of oncoprotein expressions in thyroid papillary carcinoma." Author(s): Baltaz AZ, Filiz AI, Kurt Y, Sucullu I, Yucel E, Akin ML Number of Citations: 0 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/21547408</p>
Hu / 1:200	<p>MA5-14057 was used in immunohistochemistry to study the prognostic value of stromal caveolin-1 in breast cancer</p> <p>Pathol Oncol Res. 2012 Apr;18(2):459-69. "Stromal caveolin-1 expression in breast carcinoma. Correlation with early tumor recurrence and clinical outcome." Author(s): El-Gendi SM, Mostafa MF, El-Gendi AM Number of Citations: 4 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/22057638</p>
Hu / 1:400	<p>MA5-14057 was used in immunohistochemistry to study six cases of mixed epithelial and mesenchymal type metaplastic breast carcinoma with myoepithelial differentiation</p> <p>Pathol Res Pract. 2012 Mar 15;208(3):147-50. "Clinicopathologic features of the mixed epithelial and mesenchymal type metaplastic breast carcinoma with myoepithelial differentiation in a subset of six cases." Author(s): Yigit S, Pehlivan FS, Evcim G, Etit D Number of Citations: 0 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/22361036</p>
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Ms / Not Cited	<p>MA5-14057 was used in immunohistochemistry to study the role of merlin on receptor accumulation and signaling at the plasma membrane in normal and tumorigenic Schwann cells</p> <p>Oncogene. 2009 Feb 12;28(6):854-65. "Merlin regulates transmembrane receptor accumulation and signaling at the plasma membrane in primary mouse Schwann cells and in human schwannomas." Author(s): Lallemand D, Manent J, Couvelard A, Watilliaux A, Siena M, Chareyre F, Lampin A, Niwa-Kawakita M, Kalamarides M, Giovannini M Number of Citations: 17 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/19029950</p>
1 Flow Cytometry Reference	
Species / Dilution	Summary
Ms / 0	<p>MA5-14057 was used in flow cytometry and immunohistochemistry to develop a co-culture model from an invasive lobular carcinoma for the evaluation of therapeutic agents</p> <p>BMC Cancer. 2008 Apr 24;8():119. "A stable explant culture of HER2/neu invasive carcinoma supported by alpha-Smooth Muscle Actin expressing stromal cells to evaluate therapeutic agents." Author(s): Piechocki MP Number of Citations: 0 PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/18435859</p>
1 Immunoprecipitation Reference	
Species / Dilution	Summary

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MA5-14057 was used in immunoprecipitation and western blot to examine the role of E-cadherin and ADAM15 in ErbB receptor signaling

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Author(s): Najy AJ, Day KC, Day ML

Number of Citations: 21

PubMed Article URL: <http://www.ncbi.nlm.nih.gov/pubmed/18434311>

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