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Phospho-ERBB2(Y1005) Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3781s

Product Information

Application	WB, IF, DB, E
Primary Accession	P04626
Other Accession	NP_001005862.1
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	137910

Additional Information

Gene ID	2064
Other Names	Receptor tyrosine-protein kinase erbB-2, Metastatic lymph node gene 19 protein, MLN 19, Proto-oncogene Neu, Proto-oncogene c-ErbB-2, Tyrosine kinase-type cell surface receptor HER2, p185erbB2, CD340, ERBB2, HER2, MLN19, NEU, NGL
Target/Specificity	This ERBB2 Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding Y1005 of human ERBB2.
Dilution	WB~~1:1000 IF~~1:100 DB~~1:500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Phospho-ERBB2(Y1005) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ERBB2
Synonyms	HER2, MLN19, NEU, NGL

Function	Protein tyrosine kinase that is part of several cell surface receptor complexes, but that apparently needs a coreceptor for ligand binding. Essential component of a neuregulin-receptor complex, although neuregulins do not interact with it alone. GP30 is a potential ligand for this receptor. Regulates outgrowth and stabilization of peripheral microtubules (MTs). Upon ERBB2 activation, the MEMO1-RHOA-DIAPH1 signaling pathway elicits the phosphorylation and thus the inhibition of GSK3B at cell membrane. This prevents the phosphorylation of APC and CLASP2, allowing its association with the cell membrane. In turn, membrane-bound APC allows the localization of MACF1 to the cell membrane, which is required for microtubule capture and stabilization.
Cellular Location	Cell membrane; Single-pass type I membrane protein. Cell projection, ruffle membrane; Single-pass type I membrane protein. Note=Internalized from the cell membrane in response to EGF stimulation. [Isoform 2]: Cytoplasm. Nucleus.
Tissue Location	Expressed in a variety of tumor tissues including primary breast tumors and tumors from small bowel, esophagus, kidney and mouth.

Background

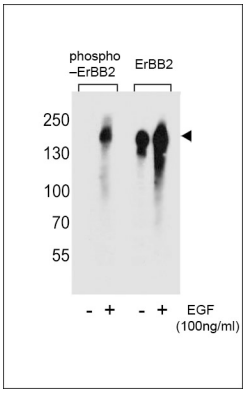
This gene encodes a member of the epidermal growth factor (EGF) receptor family of receptor tyrosine kinases. This protein has no ligand binding domain of its own and therefore cannot bind growth factors. However, it does bind tightly to other ligand-bound EGF receptor family members to form a heterodimer, 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.

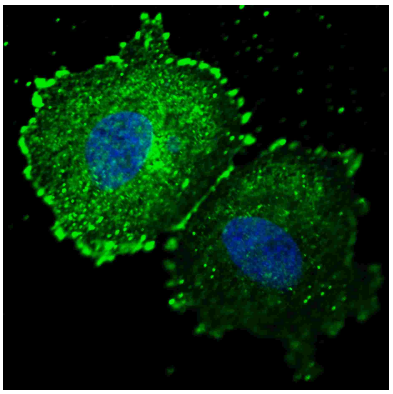
References

References for protein:
1.Geradts, J., et al. Cancer Invest. 28(9):969-977(2010)
2.Zaoui, K., et al. Proc. Natl. Acad. Sci. U.S.A. 107(43):18517-18522(2010)
3.Oliveras, G., et al. Ann. N. Y. Acad. Sci. 1210, 86-92 (2010)
4. Han, J.S., et al. Anticancer Res. 30(9):3407-3412(2010)
5.Stackievicz, R., et al. Isr. Med. Assoc. J. 12(5):290-295(2010)
References for MCF7 cell line:
1.Soule, HD; Vazquez J; Long A; Albert S; Brennan M. (1973). "A human cell line from a pleural effusion derived from a breast carcinoma". Journal of the National Cancer Institute 51 (5): 1409–1416. [PMID 4357757].
2.Levenson, AS; Jordan VC. (1997). "MCF-7: the first hormone-responsive breast cancer cell line". Cancer Research 57 (15): 3071–3078. [PMID 9242427].
3.Lacroix, M; Leclercq G. (2004). "Relevance of breast cancer cell lines as models for breast tumours: an update". Breast Research and Treatment 83 (3): 249–289.[PMID 14758095].

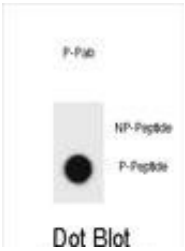
Images

Western blot analysis of extracts from A431 cell,untreated or treated with EGF,using phospho-ERBB2-Y1005 (left) or ErBB2 antibody(right).





Fluorescent confocal image of MCF7 cells stained with phospho-ERBB2-Y1005 antibody. MCF7 cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.2%, 30 min). Cells were then incubated with AP3781s phospho-ERBB2- Y1005 primary antibody (1:100, 2 h at room temperature). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:1000, 1h). Nuclei were counterstained with Hoechst 33342 (blue) (10 µg/ml, 5 min). Note the highly specific localization of the phospho-ERBB2-Y1005 to the plasma membrane and cytoplasm.



Dot blot analysis of ERBB2 Antibody (Phospho Y1005) Phospho-specific Pab (Cat. #AP3781s) on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antibody working concentrations are 0.6ug per ml.