

Anti-ErbB 4 Antibody
Catalog # ABO11188

Specification

Anti-ErbB 4 Antibody - Product Information

Application	WB
Primary Accession	Q15303
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for Receptor tyrosine-protein kinase erbB-4(ERBB4) detection. Tested with WB in Human;Mouse;Rat.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-ErbB 4 Antibody - Additional Information

Gene ID 2066

Other Names

Receptor tyrosine-protein kinase erbB-4, 2.7.10.1, Proto-oncogene-like protein c-ErbB-4, Tyrosine kinase-type cell surface receptor HER4, p180erbB4, ERBB4 intracellular domain, 4ICD, E4ICD, s80HER4, ERBB4, HER4

Calculated MW

146808 MW KDa

Application Details

Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat

Subcellular Localization

Cell membrane ; Single-pass type I membrane protein . In response to NRG1 treatment, the activated receptor is internalized.

Tissue Specificity

Expressed at highest levels in brain, heart, kidney, in addition to skeletal muscle, parathyroid, cerebellum, pituitary, spleen, testis and breast. Lower levels in thymus, lung, salivary gland, and pancreas. Isoform JM-A CYT-1 and isoform JM-B CYT-1 are expressed in cerebellum, but only the isoform JM-B is expressed in the heart. .

Protein Name

Receptor tyrosine-protein kinase erbB-4

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Thimerosal, 0.05mg NaN₃.

Immunogen

A synthetic peptide corresponding to a sequence at the N-terminus of human ErbB 4(35-51aa KLSSLSDLEQQYRALRK), identical to the related rat and mouse sequences.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage

At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.

Sequence Similarities

Belongs to the protein kinase superfamily. Tyr protein kinase family. EGF receptor subfamily.

Anti-ErbB 4 Antibody - Protein Information

Name ERBB4

Synonyms HER4

Function

Tyrosine-protein kinase that plays an essential role as cell surface receptor for neuregulins and EGF family members and regulates development of the heart, the central nervous system and the mammary gland, gene transcription, cell proliferation, differentiation, migration and apoptosis. Required for normal cardiac muscle differentiation during embryonic development, and for postnatal cardiomyocyte proliferation. Required for normal development of the embryonic central nervous system, especially for normal neural crest cell migration and normal axon guidance. Required for mammary gland differentiation, induction of milk proteins and lactation. Acts as cell-surface receptor for the neuregulins NRG1, NRG2, NRG3 and NRG4 and the EGF family members BTC, EREG and HBEGF. Ligand binding triggers receptor dimerization and autophosphorylation at specific tyrosine residues that then serve as binding sites for scaffold proteins and effectors. Ligand specificity and signaling is modulated by alternative splicing, proteolytic processing, and by the formation of heterodimers with other ERBB family members, thereby creating multiple combinations of intracellular phosphotyrosines that trigger ligand- and context- specific cellular responses. Mediates phosphorylation of SHC1 and activation of the MAP kinases MAPK1/ERK2 and MAPK3/ERK1. Isoform JM-A CYT-1 and isoform JM-B CYT-1 phosphorylate PIK3R1, leading to the activation of phosphatidylinositol 3-kinase and AKT1 and protect cells against apoptosis. Isoform JM-A CYT-1 and isoform JM-B CYT-1 mediate reorganization of the actin cytoskeleton and promote cell migration in response to NRG1. Isoform JM-A CYT-2 and isoform JM-B CYT-2 lack the phosphotyrosine that mediates interaction with PIK3R1, and hence do not phosphorylate PIK3R1, do not protect cells against apoptosis, and do not promote reorganization of the actin cytoskeleton and cell migration. Proteolytic processing of isoform JM-A CYT-1 and isoform JM-B CYT-2 gives rise to the corresponding soluble intracellular domains (4ICD) that translocate to the nucleus, promote nuclear import of STAT5A, activation of STAT5A, mammary epithelium differentiation, cell proliferation and activation of gene expression. The ERBB4 soluble intracellular domains (4ICD) colocalize with STAT5A at the CSN2 promoter to regulate transcription of milk proteins during lactation. The ERBB4 soluble intracellular domains can also translocate to mitochondria and promote apoptosis.

Cellular Location

Cell membrane; Single-pass type I membrane protein. Note=In response to NRG1 treatment, the

activated receptor is internalized

Tissue Location

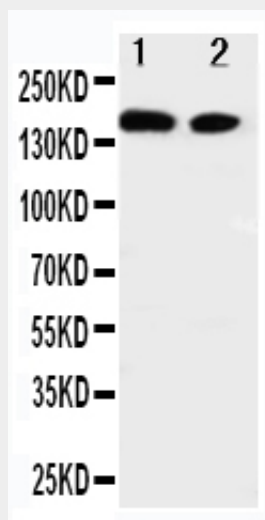
Expressed at highest levels in brain, heart, kidney, in addition to skeletal muscle, parathyroid, cerebellum, pituitary, spleen, testis and breast. Lower levels in thymus, lung, salivary gland, and pancreas. Isoform JM-A CYT-1 and isoform JM-B CYT-1 are expressed in cerebellum, but only the isoform JM-B is expressed in the heart.

Anti-ErbB 4 Antibody - Protocols

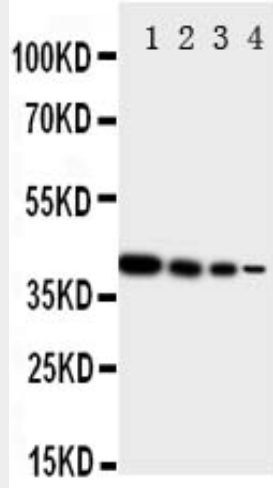
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

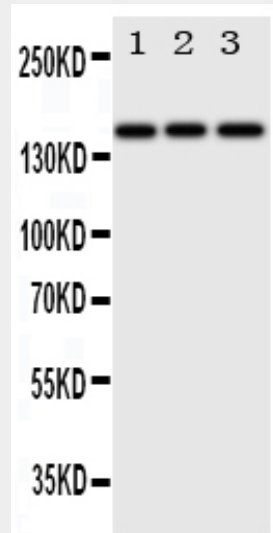
Anti-ErbB 4 Antibody - Images



Anti-ErbB 4 antibody, ABO11188, Western blotting Lane 1: A549 Cell Lysate Lane 2: HELA Cell Lysate



Anti-ErbB 4 antibody, ABO11188, Western blotting Recombinant Protein Detection Source: E.coli derived -recombinant human ERBB4, 40.6KD(162aa tag+M1-P200) Lane 1: Recombinant Human ERBB4 Protein 10ng Lane 2: Recombinant Human ERBB4 Protein 5ng Lane 3: Recombinant Human ERBB4 Protein 2.5ng Lane 4: Recombinant Human ERBB4 Protein 1.25ng



Anti-ErbB 4 antibody, ABO11188, Western blotting Lane 1: HELA Cell Lysate Lane 2: U87 Cell Lysate Lane 3: NEURO Cell Lysate

Anti-ErbB 4 Antibody - Background

ERBB4(V-erb-b2 avian erythroblastic leukemia viral oncogene homolog 4) also known as ONCOGENE ERBB4 or HER4, is an enzyme that in humans is encoded by the ERBB4 gene. The HER4/ERBB4 gene is a member of the type I receptor tyrosine kinase subfamily that includes EGFR, ERBB2 and ERBB3. The ERBB4 gene is mapped on 2q34. ERBB4 is a single-pass type I transmembrane protein with multiple furin-like cysteine rich domains, a tyrosine kinase domain, a phosphatidylinositol-3 kinase binding site and a PDZ domain binding motif. Huang et al.(2000) reported that ERBB4 is enriched in the postsynaptic density and associates with PSD95. ERBB4 is a transmembrane receptor tyrosine kinase that regulates cell proliferation and differentiation. After binding its ligand, heregulin, or activation of protein kinase C by TPA, the ERBB4 ectodomain is cleaved by a metalloprotease. Ni et al.(2001) concluded that gamma-secretase cleavage of ERBB4 may represent another mechanism for receptor tyrosine kinase-mediated signaling.