

ERBB4 Antibody(N-term) Blocking peptide
Synthetic peptide
Catalog # BP7631a**Specification****ERBB4 Antibody(N-term) Blocking peptide -
Product Information**Primary Accession [Q15303](#)**ERBB4 Antibody(N-term) Blocking peptide -
Additional Information****Gene ID** 2066**Other Names**

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

Target/Specificity

The synthetic peptide sequence used to
generate the antibody <a href=/product/pr
oducts/AP7631a>AP7631a was
selected from the N-term region of human
ErbB4 . A 10 to 100 fold molar excess to
antibody is recommended. Precise
conditions should be optimized for a
particular assay.

Format

Peptides are lyophilized in a solid powder
format. Peptides can be reconstituted in
solution using the appropriate buffer as
needed.

Storage

Maintain refrigerated at 2-8°C for up to 6
months. For long term storage store at
-20°C.

Precautions

This product is for research use only. Not
for use in diagnostic or therapeutic
procedures.

**ERBB4 Antibody(N-term) Blocking peptide -
Protein Information****ERBB4 Antibody(N-term) Blocking peptide
- Background**

Protein kinases are enzymes that transfer a
phosphate group from a phosphate donor,
generally the γ phosphate of ATP, onto an
acceptor amino acid in a substrate protein. By
this basic mechanism, protein kinases mediate
most of the signal transduction in eukaryotic
cells, regulating cellular metabolism,
transcription, cell cycle progression,
cytoskeletal rearrangement and cell
movement, apoptosis, and differentiation. 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.

**ERBB4 Antibody(N-term) Blocking peptide
- References**

Cheng, Q.C., et al., J. Biol. Chem.
278(40):38421-38427 (2003).Komuro, A., et
al., J. Biol. Chem. 278(35):33334-33341
(2003).Williams, E.E., et al., Cancer Lett.
192(1):67-74 (2003).Thomas, C.Y., et al., Int. J.
Cancer 104(1):19-27 (2003).Ni, C.Y., et al., J.
Biol. Chem. 278(7):4561-4565 (2003).

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-A 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.

**ERBB4 Antibody(N-term) Blocking peptide
- Protocols**

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

- [Blocking Peptides](#)