

**hHER4 Blocking Peptide (C-term Y1188)**

Synthetic peptide

Catalog # BP20287b

**Specification**

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**hHER4 Blocking Peptide (C-term Y1188) - Product Information**

Primary Accession

[O15303](#)

Other Accession

[NP\\_001036064.1](#)**hHER4 Blocking Peptide (C-term Y1188) - 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 is selected from aa 1184-1194 of HUMAN ERBB4

**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.

**hHER4 Blocking Peptide (C-term Y1188) - 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.

## **hHER4 Blocking Peptide (C-term Y1188) - Protocols**

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

- [Blocking Peptides](#)

## **hHER4 Blocking Peptide (C-term Y1188) - Images**

## **hHER4 Blocking Peptide (C-term Y1188) - Background**

This gene is a member of the Tyr protein kinase family and the epidermal growth factor receptor subfamily. It encodes a single-pass type I membrane protein with multiple cysteine rich domains, a transmembrane domain, a tyrosine kinase domain, a phosphatidylinositol-3 kinase binding site and a PDZ domain binding motif. The protein binds to and is activated by neuregulins and other factors and induces a variety of cellular responses including mitogenesis and differentiation. Multiple proteolytic events allow for the release of a cytoplasmic fragment and an extracellular fragment. Mutations in this gene have been associated with cancer. Alternatively spliced variants which encode different protein isoforms have been described; however, not all variants have been fully characterized.

## **hHER4 Blocking Peptide (C-term Y1188) - References**

Nicodemus, K.K., et al. Arch. Gen. Psychiatry 67(10):991-1001(2010)  
Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)

Das, P.M., et al. Oncogene 29(37):5214-5219(2010)  
Lu, C.L., et al. Neurosci. Lett. 481(2):120-125(2010)  
Rokicki, J., et al. Mol. Cancer 9, 150 (2010) :