

ARG70270

Human ERBB2 / HER2 recombinant protein (ECD) (His-tagged, C-ter)

Package: 100 µg

Store at: -20°C

Summary

Product Description	HEK293 expressed, His-tagged (C-ter) Human ERBB2 / HER2 recombinant protein (ECD).
Tested Reactivity	Hu
Tested Application	Binding, SDS-PAGE
Target Name	ERBB2 / HER2 (ECD)
Species	Human
A.A. Sequence	Thr23 - Thr652 of Human ERBB2 / HER2 (NP_004439.2) with 6X His tag at the C-terminus.
Expression System	HEK293
Alternate Names	p185erbB2; Proto-oncogene c-ErbB-2; Metastatic lymph node gene 19 protein; Proto-oncogene Neu; NGL; EC 2.7.10.1; CD340; CD antigen CD340; TKR1; HER-2; Tyrosine kinase-type cell surface receptor HER2; HER2; NEU; HER-2/neu; MLN 19; Receptor tyrosine-protein kinase erbB-2

Application Instructions

Application Note	Binding activity test: Measured by its binding ability in a functional ELISA. Immobilized recombinant human ERBB2 at 10 ng/ml (100 µl/well) can bind Trastuzumab with a linear range of 4-20 ng/ml.
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Properties

Form	Powder
Purification Note	0.22 µm filter sterilized. Endotoxin level is 95% (by SDS-PAGE)
Buffer	PBS (pH 7.4)
Reconstitution	Reconstitute to a concentration of 0.1 - 0.5 mg/ml in sterile distilled water.
Storage instruction	For long term, lyophilized protein should be stored at -20°C or -80°C. After reconstitution, aliquot and store at -20°C for up to one month, at 2-8°C for up to one week. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Gene Symbol	ERBB2
Gene Full Name	erb-b2 receptor tyrosine kinase 2
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. [provided by RefSeq, Jul 2008]

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.

In the nucleus is involved in transcriptional regulation. Associates with the 5'-TCAAATTC-3' sequence in the PTGS2/COX-2 promoter and activates its transcription. Implicated in transcriptional activation of CDKN1A; the function involves STAT3 and SRC. Involved in the transcription of rRNA genes by RNA Pol I and enhances protein synthesis and cell growth. [UniProt]

Calculated Mw

138 kDa

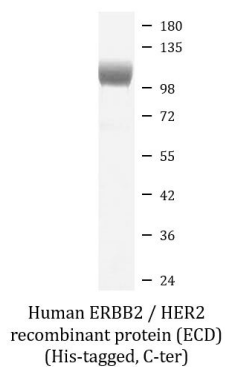
PTM

Autophosphorylated. Autophosphorylation occurs in trans, i.e. one subunit of the dimeric receptor phosphorylates tyrosine residues on the other subunit (Probable). Ligand-binding increases phosphorylation on tyrosine residues (PubMed:27134172). Signaling via SEMA4C promotes phosphorylation at Tyr-1248 (PubMed:17554007). Dephosphorylated by PTPN12 (PubMed:27134172). [UniProt]

Cellular Localization

Isoform 1: Cell membrane; Single-pass type I membrane protein. Cytoplasm, perinuclear region. Nucleus. Note=Translocation to the nucleus requires endocytosis, probably endosomal sorting and is mediated by importin beta-1/KPNB1. Isoform 2: Cytoplasm. Nucleus. Isoform 3: Cytoplasm. Nucleus. [UniProt]

Images



ARG70270 Human ERBB2 / HER2 recombinant protein (ECD) (His-tagged, C-ter) SDS-PAGE image

SDS-PAGE analysis of ARG70270 Human ERBB2 / HER2 recombinant protein (ECD) (His-tagged, C-ter).