abcam

Product datasheet

Recombinant human ErbB4 / HER4 protein ab155610

2 Images

Description

Product name	Recombinant human ErbB4 / HER4 protein
Biological activity	Measured by its ability to inhibit the biological activity of Neuregulin-1-ß1 on MCF7 Human breast cancer cells. In the presence of 10 ng/ml of Recombinant Human NRG1-ß1/HRG1-ß1 Extracellular Domain. The ED_{50} for this effect is typically 0.2-2.5 µg/ml.
Purity	> 95 % SDS-PAGE.
Endotoxin level	< 1.000 Eu/µg
Expression system	HEK 293 cells
Accession	Q15303
Protein length	Protein fragment
Animal free	No
Nature	Recombinant
Species	Human
Sequence	QSVCAGTENKLSSLSDLEQQYRALRKYYENCEVVMGNLEI TSIEHNRDLS FLRSVREVTG YVLVALNQFRYLPLENLRIIRGTKLYEDRYALAIFLNY RKDGNFGLQELGLKNLTEILNG GVYVDQNKFLCYADTIHWQDIVRNPW PSNLTLVSTNGSSGCGRCHKSCTGRCWGPTENHC QTLTRTVCAEQCDG RCYGPYVSDCCHRECAGGCSGPKDTDCFACMNFNDSG ACVTQCPQT FV YNPTTFQLEHNFNAKYTYGAFCVKKCPHNFVVDSSSCVR ACPSSKMEVEE NGIKMCKP CTDICPKACDGIGTGSLMSAQTVDSSNIDKFINCTKINGN LIFLVTGIHGDPYNAIEAID PEKLNVFRTVREITGFLNIQSWPPNMTD FSVFSNLVTIGGRVLYSGLSLLILKQQGITSL QFQSLKEISAGNIYIT DNSNLCYYHTINWTTLFSTINQRIVIRDNRKAENCTAEGMVC NH LCSS

DGCWGPGPDQCLSCRRFSRGRICIESCNLYDGEFREFEN
GSICVECDPQC EKMEDG
LLTCHGPGPDNCTKCSHFKDGPNCVEKCPDGLQGANSFI
FKY ADPDRECHPCHPNCTQGC
NGPTSHDCIYYPWTGHSTLPQHARTP

Predicted molecular weight	71 kDa including tags
Amino acids	26 to 651
Tags	His tag C-Terminus

Specifications

Our Abpromise guarantee covers the use of **ab155610** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	Functional Studies SDS-PAGE
Form	Lyophilized

Preparation and Storage

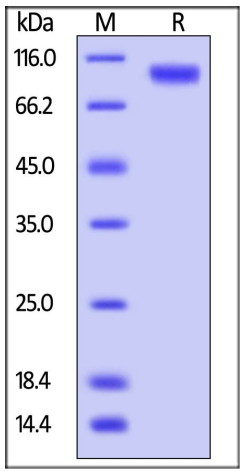
Stability and Storage	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle. pH: 7.40 Constituents: 95% PBS, 5% Trehalose This product is an active protein and may elicit a biological response in vivo, handle with caution.
Reconstitution	It is recommended to reconstitute the lyophilized protein in sterile deionized water to a final concentration of 200ug/ml. Solubilize for 30 to 60 minutes at room temperature with occasional gentle mixing. Carrier protein (0.1% HSA or BSA) is strongly recommended for further dilution and long term storage.

General Info

Function	Specifically binds and is activated by neuregulins, NRG-2, NRG-3, heparin-binding EGF-like growth factor, betacellulin and NTAK. Interaction with these factors induces cell differentiation. Not activated by EGF, TGF-A, and amphiregulin. The C-terminal fragment (CTF) of isoform JMA-A CYT-2 (containing E4ICD2) can stimulate transcription in the presence of YAP1. ERBB4 intracellular domain is involved in the regulation of cell growth. Conflicting reports are likely due at least in part to the opposing effects of the isoform-specific and nuclear-translocated ERBB4 intracellular domains (E4ICD1 and E4ICD2). Overexpression studies in epithelium show growth inhibition using E4ICD1 and increased proliferation using E4ICD2. E4ICD2 has greater in vitro kinase activity than E4ICD1. The kinase activity is required for the nuclear translocation of E4ICD2.
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.
Sequence similarities	Belongs to the protein kinase superfamily. Tyr protein kinase family. EGF receptor subfamily.

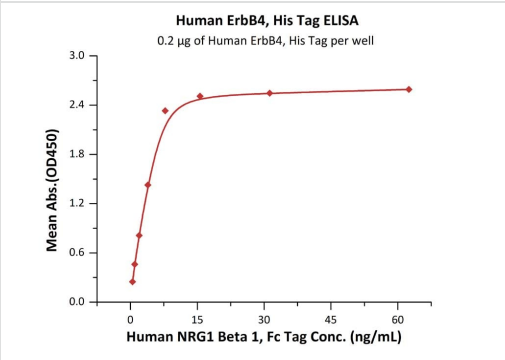
	Contains 1 protein kinase domain.
Post-translational modifications	Isoform JM-A CYT-1 and isoform JM-A CYT-2 but not isoform JM-B CYT-1 and isoform JM-B CYT-2 are processed by ADAM17. Proteolytic processing in response to ligand or 12-O-tetradecanoylphorbol-13-acetate stimulation results in the production of 120 kDa soluble receptor forms and intermediate membrane-anchored 80 kDa fragments (m80HER4), which are further processed by a presenilin-dependent gamma-secretase to release the respective cytoplasmic intracellular domain E4ICD (either E4ICD1/s80Cyt1 or E4ICD2/s80Cyt2). Membrane-anchored 80 kDa fragments of the processed isoform JM-A CYT-1 are more readily degraded by the proteasome than fragments of isoform JM-A CYT-2 suggesting a prevalence of E4ICD2 over E4ICD1. Ligand-binding increases phosphorylation on tyrosine residues. Isoform JM-A CYT-2 is constitutively phosphorylated on tyrosine residues in a ligand-independent manner. E4ICD2 but not E4ICD1 is phosphorylated on tyrosine residues. Ubiquitinated. The ERBB4 intracellular domain is ubiquitinated and targeted to proteosomal degradation during mitosis mediated by the APC/C complex. Isoform JM-A CYT-1 and isoform JM-B CYT-1 are ubiquitinated by WWP1. The ERBB4 intracellular domain (E4ICD1) is ubiquitinated, and this involves NEDD4.
Cellular localization	Membrane and Nucleus. Following proteolytical processing E4ICD (E4ICD1 or E4ICD2 generated from the respective isoforms) is translocated to the nucleus. Significantly more E4ICD2 than E4ICD1 is found in the nucleus. E4ICD2 colocalizes with YAP1 in the nucleus.

Images



SDS-PAGE - Recombinant human ErbB4 / HER4 protein (ab155610)

Human ErbB4, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.



Functional Studies - Recombinant human ErbB4 / HER4 protein (ab155610)

Immobilsed ab155610 at 2 µg/mL (100 µL/well) can bind Human NRG1 Beta 1, Fc Tag with a linear range of 0.5-8 ng/mL

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