abcam

Product datasheet

Anti-ErbB 4 (phospho Y1284) antibody ab61059

★★★★★ 3 Abreviews 2 References 2 Images

Overview

Product name	Anti-ErbB 4 (phospho Y1284) antibody
Description	Rabbit polyclonal to ErbB 4 (phospho Y1284)
Host species	Rabbit
Specificity	Detects endogenous levels of ErbB 4 only when phosphorylated at tyrosine 1284.
Tested applications	**Suitable for:** ELISA, WB, ICC/IF, IHC-FoFr
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	Synthetic phosphopeptide derived from human ErbB 4 around the phosphorylation site of tyrosine 1284 (P-E-Y^P-L-S)
Positive control	HeLa cells treated with 200nM EGF for 5 minutes.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at -20°C. Stable for 12 months at -20°C.
Storage buffer	Preservative: 0.02% Sodium Azide Constituents: 50% Glycerol, PBS (without Mg^{2+} and Ca^{2+}),150mM Sodium chloride, pH 7.4
Purity	Immunogen affinity purified
Purification notes	The antibody against non-phosphopeptide was removed by chromatography using non-phosphopeptide corresponding to the phosphorylation site.
Clonality	Polyclonal
Isotype	IgG

Applications

Our Abpromise guarantee covers the use of **ab61059** in the following tested applications.

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

Application	Abreviews	Notes
ELISA		1/100000.

Application	Abreviews	Notes
WB	★★★★★	1/500.
ICC/IF	★★★★★	1/100 - 1/500.
IHC-FoFr		Use at an assay dependent concentration. PubMed: 21903113

Target

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.

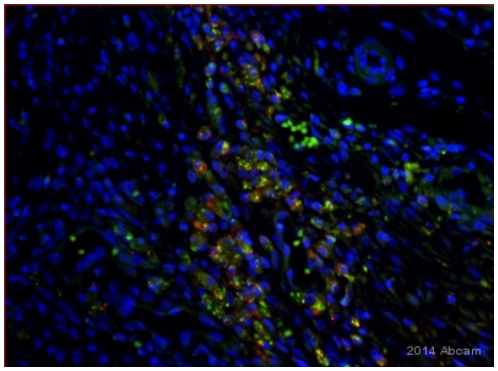
Post-translational modifications

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.

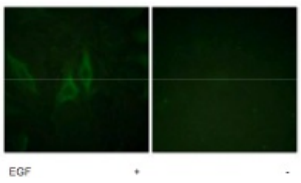
Images



Immunocytochemistry/ Immunofluorescence - Anti-ErbB 4 (phospho Y1284) antibody (ab61059)

This image is courtesy of an Abreview submitted by Simon Pascual

ab61059 staining ErbB 4 (phospho Y1284) in rat heart tissue sections by ICC/IF (Immunocytochemistry/immunofluorescence). Sections were fixed with paraformaldehyde, permeabilized with 0.05% Tween20 and blocked with 5% BSA + normal goat serum for 4 hours at 21°C. Samples were incubated with primary antibody (1/30 in 5% BSA + 0.05% Tween20 in TBS) for 12 hours at 4°C. ab150077, a goat anti-rabbit Alexa 488 (1/200) was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-ErbB 4 (phospho Y1284) antibody (ab61059)

1/100-1/500 ab61059 staining phosphorilated Erb B on HeLa cells treated with 200nM EGF for 5 minutes, in the absence (left) or presence (right) of the immunizing phosphopeptide.

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