

ErbB-4 (C-18): sc-283

BACKGROUND

The EGF receptor family comprises several related receptor tyrosine kinases that are frequently overexpressed in a variety of carcinomas. Members of this receptor family include EGFR (HER1), Neu (ErbB-2, HER2), ErbB-3 (HER3) and ErbB-4 (HER4), which form either homodimers or heterodimers upon ligand binding. The gene encoding ErbB-4 is expressed as a full length protein, which produces a short membrane-anchored cytoplasmic domain fragment and a long ectodomain fragment. The short fragment is heavily tyrosine phosphorylated and possesses tyrosine kinase catalytic activity toward an exogenous substrate. Proteolytic cleavage of ErbB-4 is promoted by the binding of heregulin. ErbB-4 is involved in cell proliferation and differentiation and its expression is highest in breast carcinoma cell lines, normal skeletal muscle, heart, pituitary, brain and cerebellum.

CHROMOSOMAL LOCATION

Genetic locus: ERBB4 (human) mapping to 2q34; Erbb4 (mouse) mapping to 1 C3.

SOURCE

ErbB-4 (C-18) is available as either rabbit (sc-283) or goat (sc-283-G) affinity purified polyclonal antibody raised against a peptide mapping at the C-terminus of ErbB-4 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-283 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as phycoerythrin conjugate for flow cytometry, sc-283 PE, 100 tests; as agarose conjugate for immunoprecipitation, sc-283 AC, 500 µg/0.25 ml agarose in 1 ml; and as HRP conjugate for Western Blotting, sc-283 HRP, 200 µg/1 ml.

APPLICATIONS

ErbB-4 (C-18) is recommended for detection of ErbB-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:25, dilution range 1:25-1:250), flow cytometry (1 µg per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). ErbB-4 (C-18) is also recommended for detection of ErbB-4 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for ErbB-4 siRNA (h): sc-35329, ErbB-4 siRNA (m): sc-35330, ErbB-4 shRNA Plasmid (h): sc-35329-SH, ErbB-4 shRNA Plasmid (m): sc-35330-SH, ErbB-4 shRNA (h) Lentiviral Particles: sc-35329-V and ErbB-4 shRNA (m) Lentiviral Particles: sc-35330-V.

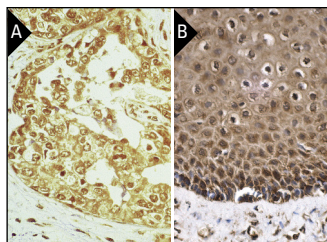
Molecular Weight of ErbB-4 precursor: 180 kDa.

Molecular Weight of ErbB-4 cleaved forms: 80/120 kDa.

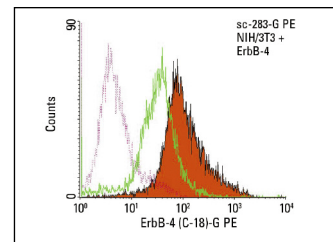
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



ErbB-4 (C-18): sc-283. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human invasive ductal primary mammary carcinoma tissue. Kindly provided by Raffaella Muraro (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human cervix tissue showing nuclear and cytoplasmic staining of squamous epithelial cells (B).



ErbB-4 (C-18)-G PE: sc-283 PE. Intracellular FCM analysis of fixed and permeabilized control (green line histogram) and ErbB-4 transfected (solid orange histogram) NIH/3T3 cells. Dotted pink histogram represents the isotype control, normal goat IgG: sc-3992.

SELECT PRODUCT CITATIONS

- Chang, H., et al. 1997. Ligands for ErbB-family receptors encoded by a neuregulin-like gene. *Nature* 387: 509-512.
- Pinkas-Kramarski, R., et al. 1997. Differential expression of NDF/neuregulin receptors ErbB-3 and ErbB-4 and involvement in inhibition of neuronal differentiation. *Oncogene* 15: 2803-2815.
- Sundvall, M., et al. 2012. Protein inhibitor of activated STAT3 (PIAS3) protein promotes SUMOylation and nuclear sequestration of the intracellular domain of ErbB4 protein. *J. Biol. Chem.* 287: 23216-23226.
- Glisic, D., et al. 2012. A novel cross-talk between endothelin and ErbB receptors controlling glutamate transporter expression in astrocytes. *J. Neurochem.* 122: 844-855.
- Wilkie, S., et al. 2012. Dual targeting of ErbB2 and MUC1 in breast cancer using chimeric antigen receptors engineered to provide complementary signaling. *J. Clin. Immunol.* 32: 1059-1070.
- Ryu, J., et al. 2012. Neuregulin-1 exerts protective effects against neurotoxicities induced by C-terminal fragments of APP via ErbB4 receptor. *J. Pharmacol. Sci.* 119: 73-81.
- Wilson, K.J., et al. 2012. The Q43L mutant of neuregulin 2β is a pan-ErbB receptor antagonist. *Biochem. J.* 443: 133-144.
- Jonckheere, N., et al. 2012. The mucin MUC4 and its membrane partner ErbB2 regulate biological properties of human CAPAN-2 pancreatic cancer cells via different signalling pathways. *PLoS ONE* 7: e32232.
- Jacinto-Alemán, J.L.F., et al. 2013. erbB expression changes in ethanol and 7,12-dimethylbenz(a)anthracene-induced oral carcinogenesis. *Med. Oral Patol. Oral Cir. Bucal.* 18: e325-e331.

RESEARCH USE

For research use only, not for use in diagnostic procedures.