

ErbB-4 (L-20): sc-31149

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.

REFERENCES

1. Plowman, G.D., et al. 1993. Ligand-specific activation of HER4/p180ErbB-4, a fourth member of the epidermal growth factor receptor family. *Proc. Natl. Acad. Sci. USA* 90: 1746-1750.
2. Zimonjic, D.B., et al. 1995. Localization of the human HER4/ErbB-4 gene to chromosome 2. *Oncogene* 10: 1235-1237.
3. Vecchi, M., et al. 1996. Selective cleavage of the heregulin receptor ErbB-4 by protein kinase C activation. *J. Biol. Chem.* 271: 18989-18995.
4. Vecchi, M., et al. 1998. Tyrosine phosphorylation and proteolysis. Pervanadate-induced, metalloprotease-dependent cleavage of the ErbB-4 receptor and amphiregulin. *J. Biol. Chem.* 273: 20589-20595.

CHROMOSOMAL LOCATION

Genetic locus: ERBB4 (human) mapping to 2q34; ErbB4 (mouse) mapping to 1 C3.

SOURCE

ErbB-4 (L-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of ErbB-4 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-31149 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

ErbB-4 (L-20) is recommended for detection of ErbB-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ErbB-4 (L-20) is also recommended for detection of ErbB-4 in additional species, including equine, canine, bovine and porcine.

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.

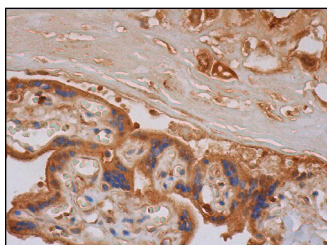
Molecular Weight of ErbB-4 cleaved forms: 80/120 kDa.

Positive Controls: mouse brain extract: sc-2253.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



ErbB-4 (L-20): sc-31149. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic and nuclear staining of trophoblastic cells and decidual cells.

RESEARCH USE

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