

ErbB-4 (A-5): sc-514327

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.
5. Srinivasan, R., et al. 1998. Expression of the c-ErbB-4/HER4 protein and mRNA in normal human fetal and adult tissues and in a survey of nine solid tumour types. *J. Pathol.* 185: 236-245.
6. Zhou, W., et al. 2000. Heregulin-dependent trafficking and cleavage of ErbB-4. *J. Biol. Chem.* 275: 34737-34743.

CHROMOSOMAL LOCATION

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

SOURCE

ErbB-4 (A-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1176-1198 within a C-terminal cytoplasmic domain of ErbB-4 of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-514327 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

ErbB-4 (A-5) is recommended for detection of ErbB-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

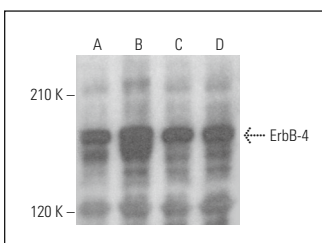
Molecular Weight of ErbB-4 cleaved forms: 80/120 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, A-431 whole cell lysate: sc-2201 or IMR-32 cell lysate: sc-2409.

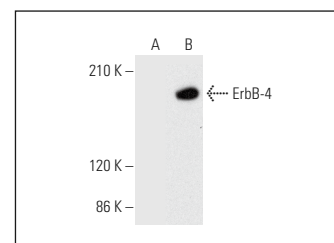
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



ErbB-4 (A-5): sc-514327. Western blot analysis of ErbB-4 expression in A-431 (A), IMR-32 (B), MCF7 (C) and MDA-MB-231 (D) whole cell lysates.



ErbB-4 (A-5): sc-514327. Western blot analysis of ErbB-4 expression in non-transfected (A) and human ErbB-4 transfected (B) NIH/3T3 whole cell lysates.

STORAGE

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



See **ErbB-4 (C-7): sc-8050** for ErbB-4 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.