SANTA CRUZ BIOTECHNOLOGY, INC.

ErbB-4 (C-7): sc-8050

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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/p180erbB4, 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.

CHROMOSOMAL LOCATION

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

SOURCE

ErbB-4 (C-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1280-1308 at the C-terminus of ErbB-4 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ErbB-4 (C-7) is available conjugated to agarose (sc-8050 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-8050 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-8050 PE), fluorescein (sc-8050 FITC), Alexa Fluor® 488 (sc-8050 AF488), Alexa Fluor® 546 (sc-8050 AF546), Alexa Fluor® 594 (sc-8050 AF594) or Alexa Fluor® 647 (sc-8050 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-8050 AF680) or Alexa Fluor® 790 (sc-8050 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-8050 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

ErbB-4 (C-7) 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), 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ErbB-4 (C-7) is also recommended for detection of ErbB-4 in additional species, including equine, canine, bovine, porcine and avian.

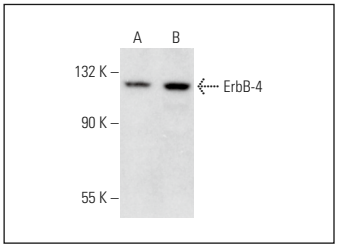
Suitable for use as control antibody for ErbB-4 siRNA (h): sc-35329, ErbB-4 siRNA (m): sc-35330, ErbB-4 shRNA Plasmid (h): sc-35329-SH, ErbB-4 shRNA Plasmid (m): sc-35330-SH, ErbB-4 shRNA (h) Lentiviral Particles: sc-35329-V and ErbB-4 shRNA (m) Lentiviral Particles: sc-35330-V.

Molecular Weight of ErbB-4 precursor: 180 kDa.

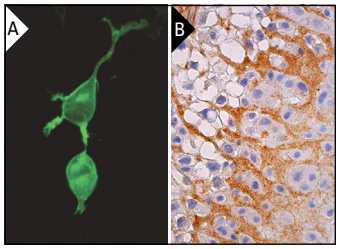
Molecular Weight of ErbB-4 cleaved forms: 80/120 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, MCF7 whole cell lysate: sc-2206 or mouse brain extract: sc-2253.

DATA



ErbB-4 (C-7): sc-8050. Western blot analysis of ErbB-4 expression in MCF7 (**A**) and IMR-32 (**B**) whole cell lysates.



ErbB-4 (C-7): sc-8050. Immunofluorescence staining of methanol-fixed NIH/3T3 cells transfected with ErbB-4 showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing extracellular staining of connective tissue (**B**).

SELECT PRODUCT CITATIONS

1. Chow, N.H., et al. 1997. Expression patterns of ErbB receptor family in normal urothelium and transitional cell carcinoma. An immunohistochemical study. Virchows Arch. 430: 461-466.
2. Shao, B., et al. 2020. RP11-284F21.9 promotes oral squamous cell carcinoma development via the miR-383-5p/MAL2 axis. J. Oral Pathol. Med. 49: 21-29.
3. Wang, J., et al. 2021. Neuregulin 1/ErbB-4 signaling contributes to the anti-epileptic effects of the ketogenic diet. Cell Biosci. 11: 29.

RESEARCH USE

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