SANTA CRUZ BIOTECHNOLOGY, INC.

p-ErbB-4 (Tyr 1056): sc-33040

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. The gene encoding ErbB-4 is expressed as a 1full length protein, which is proteolytically cleaved to produce a membrane-anchored cytoplasmic domain fragment and an ectodomain fragment. Phosphorylation of Tyr 1056 mediates the interaction of ErbB-4 with the Yes Associated Protein (YAP), which may regulate transcription. 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.

CHROMOSOMAL LOCATION

Genetic locus: ERBB4 (human) mapping to 2q34.

SOURCE

p-ErbB-4 (Tyr 1056) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Tyr 1056 phosphorylated 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-33040 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-ErbB-4 (Tyr 1056) is recommended for detection of Tyr 1056 phosphorylated ErbB-4 of human and rat 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-ErbB-4 (Tyr 1056) is also recommended for detection of correspondingly phosphorylated 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 shRNA Plasmid (h): sc-35329-SH and ErbB-4 shRNA (h) Lentiviral Particles: sc-35329-V.

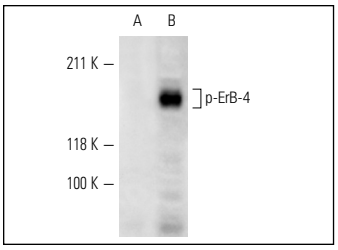
Molecular Weight of p-ErbB-4: 200 kDa.

Positive Controls: A-431 + EGF whole cell lysate: sc-2202.

STORAGE

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

DATA



p-ErbB-4 (Tyr 1056): sc-33040. Western blot analysis of ErbB-4 phosphorylation in untreated (**A**) and EGF-treated (**B**) A-431 whole cell lysates.

SELECT PRODUCT CITATIONS

1. Wen, Y., et al. 2008. Interplay between cyclin-dependent kinase 5 and glycogen synthase kinase 3β mediated by neuregulin signaling leads to differential effects on Tau phosphorylation and amyloid precursor protein processing. J. Neurosci. 28: 2624-2632.
2. Bachawal, S.V., et al. 2010. Enhanced antiproliferative and apoptotic response to combined treatment of γ-tocotrienol with erlotinib or gefitinib in mammary tumor cells. BMC Cancer 10: 84.
3. Solanas, M., et al. 2010. Dietary olive oil and corn oil differentially affect experimental breast cancer through distinct modulation of the p21Ras signaling and the proliferation-apoptosis balance. Carcinogenesis 31: 871-879.
4. Woo, R.S., et al. 2011. Expression of ErbB4 in the neurons of Alzheimer's disease brain and APP/PS1 mice, a model of Alzheimer's disease. Anat. Cell Biol. 44: 116-127.
5. du Bois, T.M., et al. 2011. Perinatal phencyclidine treatment alters neuregulin 1/erbB4 expression and activation in later life. Eur. Neuropsychopharmacol. 22: 356-363.
6. Hutcheson, I.R., et al. 2011. Fulvestrant-induced expression of ErbB3 and ErbB4 receptors sensitizes oestrogen receptor-positive breast cancer cells to heregulin β1. Breast Cancer Res. 13: R29.

RESEARCH USE

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

PROTOCOLS

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