

# ErbB-4 (D-10): sc-515142

## 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.
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 (D-10) is a mouse monoclonal antibody raised against amino acids 1061-1308 mapping at the C-terminus of ErbB-4 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## RESEARCH USE

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

## APPLICATIONS

ErbB-4 (D-10) 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.

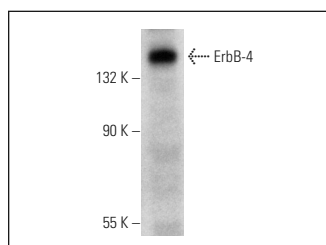
Molecular Weight of ErbB-4 cleaved forms: 80/120 kDa.

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

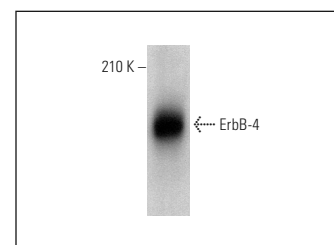
## RECOMMENDED SUPPORT REAGENTS

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, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (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 (D-10): sc-515142. Western blot analysis of ErbB-4 expression in A-431 whole cell lysate.



ErbB-4 (D-10): sc-515142. Western blot analysis of ErbB-4 expression in IMR-32 whole cell lysate.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.



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