

## ErbB-4 (6C5): sc-81456

### 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.
7. Rubin, I., et al. 2001. The basic biology of HER2. Ann. Oncol. 12: 3-8.

### CHROMOSOMAL LOCATION

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

### SOURCE

ErbB-4 (6C5) is a mouse monoclonal antibody raised against amino acids 1230-1250 of ErbB-4 of human origin.

### PRODUCT

Each vial contains 50 µg IgG<sub>1</sub> in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, PEG and sucrose.

### 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 (6C5) is recommended for detection of ErbB-4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

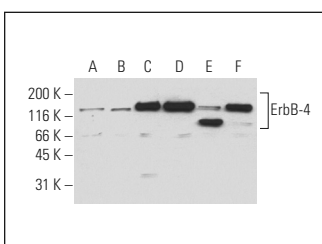
Suitable for use as control antibody for ErbB-4 siRNA (h): sc-35329, ErbB-4 shRNA Plasmid (h): sc-35329-SH and ErbB-4 shRNA (h) Lentiviral Particles: sc-35329-V.

Molecular Weight of ErbB-4 precursor: 180 kDa.

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

Positive Controls: serum starved MCF7 whole cell lysate, serum starved T-47D whole cell lysate or serum starved SW620 whole cell lysate.

### DATA



ErbB-4 (6C5): sc-81456. Western blot analysis of ErbB-4 expression in serum starved MDA-MB-231 (A), MDA-MB-468 (B), MCF7 (C), T-47D (D), SW480 (E) and SW620 (F) whole cell lysates.

### 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, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.