

ErbB-3 (0.N.214): sc-71068

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. Full length ErbB-3 is overexpressed in human mammary tumors. The ErbB-3 gene also produces several alternative variants, including a secreted form which negatively regulates heregulin-stimulated ErbB activation. ErbB-3 heterodimerizes with Neu and binds heregulin in order to activate phosphoinositide (PI) 3-kinase. The recruitment and activation of PI 3-kinase occurs via its interaction with phosphorylated YXXM motifs in the carboxy-terminus of ErbB-3.

REFERENCES

1. Kraus, M.H., et al. 1989. Isolation and characterization of ErbB-3, a third member of the ErbB/epidermal growth factor receptor family: evidence for overexpression in a subset of human mammary tumors. *Proc. Natl. Acad. Sci. USA* 86: 9193-9197.
2. Plowman, G.D., et al. 1990. Molecular cloning and expression of an additional epidermal growth factor receptor-related gene. *Proc. Natl. Acad. Sci. USA* 87: 4905-4909.
3. Kraus, M.H., et al. 1993. Demonstration of ligand-dependent signaling by the ErbB-3 tyrosine kinase and its constitutive activation in human breast tumor cells. *Proc. Natl. Acad. Sci. USA* 90: 2900-2904.
4. Rajkumar, T., et al. 1994. A monoclonal antibody to the human c-ErbB-3 protein stimulates the anchorage-independent growth of breast cancer cell lines. *Br. J. Cancer* 70: 459-465.
5. Rajkumar, T. and Gullick, W.J. 1994. The type I growth factor receptors in human breast cancer. *Breast Cancer Res. Treat.* 29: 3-9.
6. Lee, H., et al. 1998. Isolation and characterization of four alternate c-ErbB-3 transcripts expressed in ovarian carcinoma-derived cell lines and normal human tissues. *Oncogene* 16: 3243-3252.
7. Rubin, I., et al. 2001. The basic biology of HER2. *Ann. Oncol.* 12: 3-8.
8. Lee, H., et al. 2001. A naturally occurring secreted human ErbB-3 receptor isoform inhibits heregulin-stimulated activation of ErbB-2, ErbB-3 and ErbB-4. *Cancer Res.* 61: 4467-4473.
9. Hellyer, N.J., et al. 2001. Heregulin-dependent activation of phosphoinositide 3-kinase and Akt via the ErbB-2/ErbB-3 co-receptor. *J. Biol. Chem.* 276: 42153-42161.

STORAGE

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

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: ERBB3 (human) mapping to 12q13.

SOURCE

ErbB-3 (0.N.214) is a mouse monoclonal antibody raised against ErbB-3 purified from transfected human kidney fibroblasts.

PRODUCT

Each vial contains 200 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as phycoerythrin (sc-71068 PE) or fluorescein (sc-71068 FITC) conjugates for flow cytometry, 100 tests.

APPLICATIONS

ErbB-3 (0.N.214) is recommended for detection of the extracellular domain of ErbB-3 of human origin by immunoprecipitation [1–2 µg per 100–500 µg of total protein (1 ml of cell lysate)] and flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for ErbB-3 siRNA (h): sc-35327 and ErbB-3 siRNA (h2): sc-44298.

Molecular Weight of ErbB-3: 180 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

RESEARCH USE

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