SANTA CRUZ BIOTECHNOLOGY, INC.

ErbB-3 (1B4C3): sc-23865

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. Full length ErbB-3 is detected at 180 kDa by SDS-PAGE and is over-expressed in human mammary tumors. The ErbB-3 gene also produces several alternative variants, including a secreted form of 85 kDa 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. 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.
5. Rubin, I., et al. 2001. The basic biology of HER2. Ann. Oncol. 12: 3-8.

CHROMOSOMAL LOCATION

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

SOURCE

ErbB-3 (1B4C3) is a mouse monoclonal antibody raised against NIH/3T3 cells transfected with ErbB-3 of human origin.

PRODUCT

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

Available as phycoerythrin (sc-23865 PE) or fluorescein (sc-23865 FITC) conjugates for flow cytometry, 100 tests.

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-3 (1B4C3) is recommended for detection of ErbB-3 of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

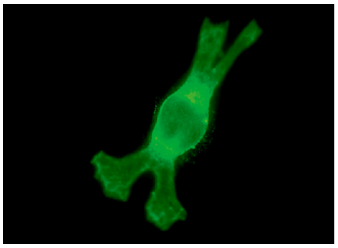
Suitable for use as control antibody for ErbB-3 siRNA (h): sc-35327, ErbB-3 shRNA Plasmid (h): sc-35327-SH and ErbB-3 shRNA (h) Lentiviral Particles: sc-35327-V.

Molecular Weight of ErbB-3: 180 kDa.

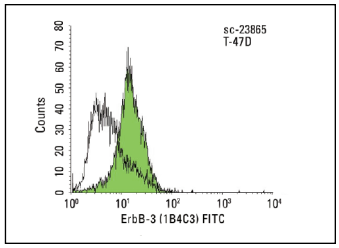
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



ErbB-3 (1B4C3): sc-23865. Immunofluorescence staining of methanol-fixed T52-16 cells showing membrane and cytoplasmic localization.



ErbB-3 (1B4C3): sc-23865. Indirect FCM analysis of T-47D cells stained with ErbB-3 (1B4C3), followed by FITC-conjugated goat anti-mouse IgG1: sc-2078. Black line histogram represents the isotype control, normal mouse IgG1: sc-3877.

SELECT PRODUCT CITATIONS

1. Yang, S., et al. 2007. Mapping ErbB receptors on breast cancer cell membranes during signal transduction. J. Cell Sci. 120: 2763-2773.

PROTOCOLS

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