

# ErbB-3 (SGP1): sc-53279

## 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., et al. 1995. c-ErbB-3 expression in breast tumour derived cell lines. *Breast* 4: 84-91.
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. 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.

## CHROMOSOMAL LOCATION

Genetic locus: ERBB3 (human) mapping to 12q13.2; Erbb3 (mouse) mapping to 10 D3.

## SOURCE

ErbB-3 (SGP1) is a mouse monoclonal antibody raised against ErbB-3 purified from transfected kidney fibroblasts of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ErbB-3 (SGP1) is available conjugated to either phycoerythrin (sc-53279 PE) or fluorescein (sc-53279 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

## APPLICATIONS

ErbB-3 (SGP1) is recommended for detection of the extracellular domain of ErbB-3 of mouse, rat and human origin by immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

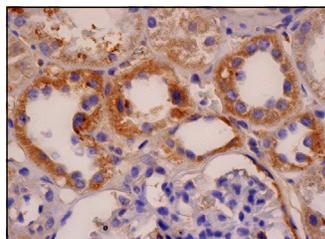
Suitable for use as control antibody for ErbB-3 siRNA (h): sc-35327, ErbB-3 siRNA (m): sc-35328, ErbB-3 shRNA Plasmid (h): sc-35327-SH, ErbB-3 shRNA Plasmid (m): sc-35328-SH, ErbB-3 shRNA (h) Lentiviral Particles: sc-35327-V and ErbB-3 shRNA (m) Lentiviral Particles: sc-35328-V.

Molecular Weight of ErbB-3: 180 kDa.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 2) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



ErbB-3 (SGP1): sc-53279. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules.

## SELECT PRODUCT CITATIONS

1. Thomas, G., et al. 2014. HER3 as biomarker and therapeutic target in pancreatic cancer: new insights in pertuzumab therapy in preclinical models. *Oncotarget* 5: 7138-7148.

## 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.



See **ErbB-3 (G-4): sc-7390** for ErbB-3 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.