

ErbB-3 (G-4): sc-7390

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.

CHROMOSOMAL LOCATION

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

SOURCE

ErbB-3 (G-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1315-1342 at the C-terminus of ErbB-3 p160 of human origin.

PRODUCT

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

ErbB-3 (G-4) is available conjugated to agarose (sc-7390 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-7390 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-7390 PE), fluorescein (sc-7390 FITC), Alexa Fluor® 488 (sc-7390 AF488), Alexa Fluor® 546 (sc-7390 AF546), Alexa Fluor® 594 (sc-7390 AF594) or Alexa Fluor® 647 (sc-7390 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-7390 AF680) or Alexa Fluor® 790 (sc-7390 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-7390 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

ErbB-3 (G-4) is recommended for detection of ErbB-3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), flow cytometry (1 µg per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ErbB-3 (G-4) is also recommended for detection of ErbB-3 in additional species, including bovine and porcine.

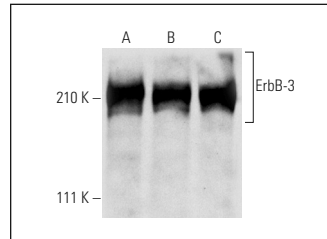
Suitable for use as control antibody for ErbB-3 siRNA (h): sc-35327, ErbB-3 siRNA (m): sc-35328, ErbB-3 shRNA Plasmid (h): sc-35327-SH, ErbB-3 shRNA Plasmid (m): sc-35328-SH, ErbB-3 shRNA (h) Lentiviral Particles: sc-35327-V and ErbB-3 shRNA (m) Lentiviral Particles: sc-35328-V.

Molecular Weight of ErbB-3: 180 kDa.

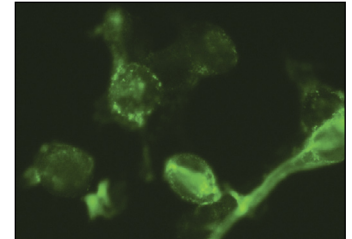
STORAGE

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

DATA



ErbB-3 (G-4): sc-7390. Western blot analysis of ErbB-3 expression in SK-BR-3 (A), MCF7 (B) and ZR-75-1 (C) whole cell lysates



ErbB-3 (G-4): sc-7390. Immunofluorescence staining of methanol-fixed NIH/3T3 cells transfected with ErbB-3 showing membrane localization.

SELECT PRODUCT CITATIONS

- Lindholm, T., et al. 2001. Expression of neuregulin and ErbB-3 and ErbB-4 after a traumatic lesion in the ventral funiculus of the spinal cord and in the intact primary olfactory system. *Exp. Brain Res.* 142: 81-90.
- Zhou, X. and Agazie, Y.M. 2012. The signaling and transformation potency of the overexpressed HER2 protein is dependent on the normally-expressed EGFR. *Cell. Signal.* 24: 140-150.
- Mukhopadhyay, P., et al. 2013. MUC4 overexpression augments cell migration and metastasis through EGFR family proteins in triple negative breast cancer cells. *PLoS ONE* 8: e54455.
- Cazet, A., et al. 2014. Mannose phosphate isomerase regulates fibroblast growth factor receptor family signaling and glioma radiosensitivity. *PLoS ONE* 9: e110345.
- Hedayatzadeh-Omran, A., et al. 2015. VERO stable cell lines expressing full-length human epidermal growth factor receptors 2 and 3: platforms for subtractive phage display. *DNA Cell Biol.* 34: 573-578.
- El Maassarani, M., et al. 2016. Integrated and functional genomics analysis validates the relevance of the nuclear variant ErbB_{380kDa} in prostate cancer progression. *PLoS ONE* 11: e0155950.
- Rush, J.S., et al. 2018. Betacellulin (BTC) biases the EGFR to dimerize with ErbB3. *Mol. Pharmacol.* 94: 1382-1390.
- Jathal, M.K., et al. 2019. Dacomitinib, but not lapatinib, suppressed progression in castration-resistant prostate cancer models by preventing HER2 increase. *Br. J. Cancer* 121: 237-248.
- Shea, G.K., et al. 2020. Juxtacrine signaling via Notch and ErbB receptors in the switch to fate commitment of bone marrow-derived Schwann cells. *Eur. J. Neurosci.* 52: 3306-3321.

RESEARCH USE

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

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