

ErbB-3 (RTJ.2): sc-415

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 of 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 (RTJ.2) is a mouse monoclonal antibody epitope mapping within the cytoplasmic domain of ErbB-3 of human origin.

PRODUCT

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

ErbB-3 (RTJ.2) is available conjugated to agarose (sc-415 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-415 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-415 PE), fluorescein (sc-415 FITC), Alexa Fluor[®] 488 (sc-415 AF488), Alexa Fluor[®] 546 (sc-415 AF546), Alexa Fluor[®] 594 (sc-415 AF594) or Alexa Fluor[®] 647 (sc-415 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-415 AF680) or Alexa Fluor[®] 790 (sc-415 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

ErbB-3 (RTJ.2) 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ 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.

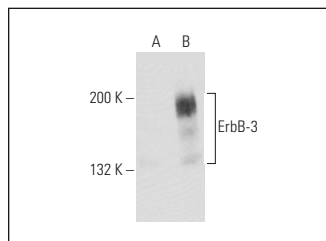
Molecular Weight of ErbB-3: 180 kDa.

Positive Controls: ErbB-3 (h): 293T Lysate: sc-111418, T-47D cell lysate: sc-2293 or SK-BR-3 cell lysate: sc-2218.

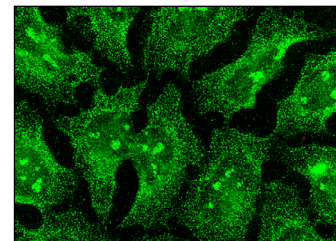
STORAGE

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

DATA



ErbB-3 (RTJ.2): sc-415. Western blot analysis of ErbB-3 expression in non-transfected: sc-117752 (A) and human ErbB-3 transfected: sc-111418 (B) 293T whole cell lysates.



ErbB-3 (RTJ.2): sc-415. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

- Kramer, R., et al. 1996. Neuregulins with an Ig-like domain are essential for mouse myocardial and neuronal development. *Proc. Natl. Acad. Sci. USA* 93: 4833-4838.
- Jay, S.M., et al. 2011. Engineered bivalent ligands to bias ErbB receptor-mediated signaling and phenotypes. *J. Biol. Chem.* 286: 27729-27740.
- Lee, H.J., et al. 2012. HER3 overexpression is a prognostic indicator of extrahepatic cholangiocarcinoma. *Virchows Arch.* 461: 521-530.
- Ocana, A., et al. 2013. HER3 overexpression and survival in solid tumors: a meta-analysis. *J. Natl. Cancer Inst.* 105: 266-273.
- Steinkamp, M.P., et al. 2014. ErbB-3 is an active tyrosine kinase capable of homo- and heterointeractions. *Mol. Cell. Biol.* 34: 965-977.
- Xi, Y., et al. 2015. Induction of Bcl2-interacting killer, BIK, is mediated for anti-cancer activity of curcumin in human head and neck squamous cell carcinoma cells. *J. Cancer* 6: 327-332.
- Humtsøe, J.O., et al. 2016. ErbB-3 upregulation by the HNSCC 3D microenvironment modulates cell survival and growth. *Oncogene* 35: 1554-1564.
- Chong, Q.Y., et al. 2017. Release of HER2 repression of trefoil factor 3 (TFF3) expression mediates trastuzumab resistance in HER2⁺/ER⁺ mammary carcinoma. *Oncotarget* 8: 74188-74208.
- Ribas, R., et al. 2018. Targeting tumour re-wiring by triple blockade of mTORC1, epidermal growth factor, and oestrogen receptor signalling pathways in endocrine-resistant breast cancer. *Breast Cancer Res.* 20: 44.
- Nami, B., et al. 2019. The effects of pertuzumab and its combination with trastuzumab on HER2 homodimerization and phosphorylation. *Cancers* 11: 375.

RESEARCH USE

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