SANTA CRUZ BIOTECHNOLOGY, INC.

p-ErbB-3 (Tyr 1328): sc-135654

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 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. Mouse, rat and human ErbB-3 are subject to phosphorylation on Tyr 1328, an event which is increased by ligand binding.

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.

CHROMOSOMAL LOCATION

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

SOURCE

p-ErbB-3 (Tyr 1328) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Tyr 1328 phosphorylated ErbB-3 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

p-ErbB-3 (Tyr 1328) is recommended for detection of Tyr 1328 phosphorylated ErbB-3 of human origin and correspondingly phosphorylated Tyr 1325 of mouse and rat 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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.

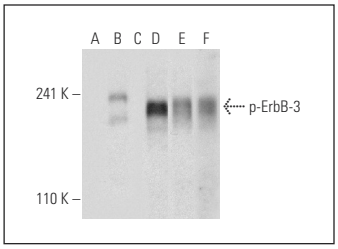
Molecular Weight of p-ErbB-3: 180 kDa.

Positive Controls: T-47D cell lysate: sc-2293.

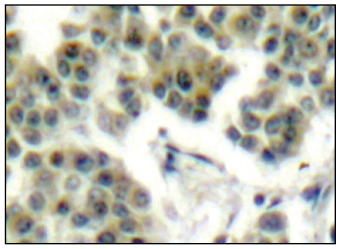
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2333, Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



Western blot analysis of ErbB-3 phosphorylation in untreated (**A**,**D**), Neuregulin-1 treated (**B**,**E**) and Neuregulin-1 and lambda protein phosphatase (sc-200312A) treated (**C**,**F**) T-47D whole cell lysates. Antibodies tested include p-ErbB-3 (Tyr 1328): sc-135654 (**A**,**B**,**C**) and ErbB-3 (5A12): sc-81455 (**D**,**E**,**F**).



p-ErbB-3 (Tyr 1328): sc-135654. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing cytoplasmic and membrane localization.

SELECT PRODUCT CITATIONS

1. Fleck, D., et al. 2013. Dual cleavage of neuregulin 1 type III by BACE1 and ADAM17 liberates its EGF-like domain and allows paracrine signaling. J. Neurosci. 33: 7856-7869.
2. Abel, E.V., et al. 2013. Melanoma adapts to RAF/MEK inhibitors through FOXD3-mediated upregulation of ERBB3. J. Clin. Invest. 123: 2155-2168.
3. Ma, C., et al. 2013. Lapatinib inhibits the activation of NF-κB through reducing phosphorylation of IκB-α in breast cancer cells. Oncol. Rep. 29: 812-818.
4. Kugel, C.H., et al. 2014. Function-blocking ERBB3 antibody inhibits the adaptive response to RAF inhibitor. Cancer Res. 74: 4122-4132.

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.

PROTOCOLS

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