

Neu (H-200): sc-134481

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. Neu, a glycoprotein, undergoes transactivation upon heterodimerization with other EGF receptor family members. Neu heterodimerization with ErbB-3 recruits heregulin, which induces phosphoinositide (PI) 3-kinase activation. Activation of Neu potentiates tumor cell motility and protease secretion and invasion, and also modulates cell cycle checkpoint function, DNA repair and apoptotic responses. Amplification and/or overexpression of Neu occurs in 20-30% of breast carcinomas. Measurement of increased Neu expression can be a predictor of disease prognosis. Neu may also prove to be a promising target for therapeutic agents.

REFERENCES

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- Hayes, D.F. and Thor, A.D. 2002. c-ErbB-2 in breast cancer: development of a clinically useful marker. *Semin. Oncol.* 29: 231-245.
- Baxevasis, C.N., et al. 2002. HER-2/Neu-derived peptide epitopes are also recognized by cytotoxic CD3⁺CD56⁺ (natural killer T) lymphocytes. *Int. J. Cancer* 98: 864-872.
- Cho, H.S., et al. 2003. Structure of the extracellular region of HER2 alone and in complex with the Herceptin Fab. *Nature* 421: 756-760.
- Crone, S.A., et al. 2003. Colonic epithelial expression of ErbB-2 is required for postnatal maintenance of the enteric nervous system. *Neuron* 37: 29-40.
- Escher, P., et al. 2005. Synapses form in skeletal muscles lacking neuregulin receptors. *Science* 308: 1920-1923.

CHROMOSOMAL LOCATION

Genetic locus: ERBB2 (human) mapping to 17q12; Erbb2 (mouse) mapping to 11 D.

SOURCE

Neu (H-200) is a rabbit polyclonal antibody raised against amino acids 251-450 mapping within an N-terminal extracellular domain of Neu of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Neu (H-200) is recommended for detection of Neu 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Neu (H-200) is also recommended for detection of Neu in additional species, including equine, canine and porcine.

Suitable for use as control antibody for Neu siRNA (h): sc-29405, Neu siRNA (m): sc-29406, Neu siRNA (r): sc-108038, Neu shRNA Plasmid (h): sc-29405-SH, Neu shRNA Plasmid (m): sc-29406-SH, Neu shRNA Plasmid (r): sc-108038-SH, Neu shRNA (h) Lentiviral Particles: sc-29405-V, Neu shRNA (m) Lentiviral Particles: sc-29406-V and Neu shRNA (r) Lentiviral Particles: sc-108038-V.

Molecular Weight of Neu: 185 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, SK-BR-3 cell lysate: sc-2218 or A-431 whole cell lysate: sc-2201.

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 A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 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.

SELECT PRODUCT CITATIONS

- Di Leva, G., et al. 2010. MicroRNA cluster 221-222 and estrogen receptor α interactions in breast cancer. *J. Natl. Cancer Inst.* 102: 706-721.
- Yang, L., et al. 2014. Identification of prolidase as a high affinity ligand of the ErbB2 receptor and its regulation of ErbB2 signaling and cell growth. *Cell Death Dis.* 5: e1211.

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.