

p-Neu (Tyr 877): sc-101695

BACKGROUND

Neu (*v-ErbB-2* erythroblastic leukemia viral oncogene homolog 2, *HER-2*, *NGL*, *TKR1*, *c-ErbB-2*) oncogene was originally cloned from a rat neuroglia-blastoma. Human Neu is referred to as *HER2* since the protein structure resembles human epidermal growth factor receptor (*HER*). *ErbB-2* refers to a high level of similarity to *ErbB* (avian erythroblastosis oncogene B), later found to code for *EGFR* (*HER*). Tyr 1248 phosphorylated Neu localizes with Mucin 4/ sialomucin complex at the apical surfaces of ductal and alveolar cells in rodent lactating gland. Phosphorylation of Neu at Tyr 1139 promotes association of *GRB2* and *GRB7* through a *Src* homology 2 (*SH2*) domain-dependent interaction, and contributes to the etiology of certain breast, gastric and esophageal cancers, and testicular germ cell tumors. Neu phosphorylation on Tyr 1221 and Tyr 1248 promotes association of *Shc* (*SH2* domain-containing transforming protein 1) through an *SH2* domain. Neu phosphorylation at Tyr 1196 and Tyr 1248 promotes association of *Shc* through a *PTB* (phosphotyrosine binding) domain. *SH2* and *PTB* domains recognize tyrosine phosphorylated proteins in a sequence-specific fashion and transduce extracellular signals via subcellular targeting, directing assembly of complexes and modulating enzymatic activity.

REFERENCES

1. Akiyama, T., et al. 1991. The transforming potential of the *c-ErbB-2* protein is regulated by its autophosphorylation at the carboxyl-terminal domain. *Mol. Cell. Biol.* 11: 833-842.
2. Xie, Y., et al. 1995. Tyrosine phosphorylation of *Shc* proteins and formation of *Shc/GRB2* complex correlate to the transformation of *NIH/3T3* cells mediated by the point-mutation activated Neu. *Oncogene* 10: 2409-2413.
3. Ricci, A., et al. 1995. Analysis of protein-protein interactions involved in the activation of the *Shc/GRB2* pathway by the *ErbB-2* kinase. *Oncogene* 11: 1519-1529.
4. Janes, P.W., et al. 1997. Structural determinants of the interaction between the *ErbB-2* receptor and the *Src* homology 2 domain of *GRB7*. *J. Biol. Chem.* 272: 8490-8497.
5. Alroy, I., et al. 1999. Neu differentiation factor stimulates phosphorylation and activation of the *Sp1* transcription factor. *Mol. Cell. Biol.* 19: 1961-1972.

CHROMOSOMAL LOCATION

Genetic locus: *ERBB2* (human) mapping to 17q12; *ErbB2* (mouse) mapping to 11 D.

SOURCE

p-Neu (Tyr 877) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Tyr 877 phosphorylated Neu of human origin.

PRODUCT

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

STORAGE

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

APPLICATIONS

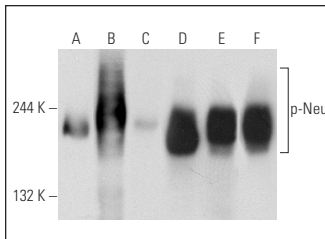
p-Neu (Tyr 877) is recommended for detection of Tyr 877 phosphorylated Neu of human origin; correspondingly phosphorylated Tyr 878 of mouse origin and correspondingly phosphorylated Tyr 897 of rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 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 Neu siRNA (h): sc-29405, Neu siRNA (m): sc-29406, Neu shRNA Plasmid (h): sc-29405-SH, Neu shRNA Plasmid (m): sc-29406-SH, Neu shRNA (h) Lentiviral Particles: sc-29405-V and Neu shRNA (m) Lentiviral Particles: sc-29406-V.

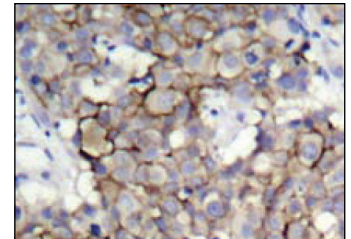
Molecular Weight of p-Neu: 185 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, MDA-MB-231 cell lysate: sc-2232 or SK-BR-3 cell lysate: sc-2218.

DATA



Western blot analysis of Neu phosphorylation in untreated (A, D), EGF treated (B, E) and EGF and lambda protein phosphatase treated (C, F) A-431 whole cell lysates. Antibodies tested include p-Neu (Tyr 877): sc-101695 (A, B, C) and Neu (C-18): sc-284 (D, E, F).



p-Neu (Tyr 877): sc-101695. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing membrane staining.

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.


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Try **p-Neu (12B9): sc-81505**, our highly recommended monoclonal alternative to p-Neu (Tyr 877).