

# Neu (C-12): sc-374382

## 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

1. Rubin, I. and Yarden, Y. 2001. The basic biology of HER2. *Ann. Oncol.* 12 Suppl. 1: S3-S8.
2. Eccles, S.A. 2001. The role of c-erbB-2/HER2/Neu in breast cancer progression and metastasis. *J. Mammary Gland Biol. Neoplasia* 6: 393-406.
3. Hellyer, N.J., Kim, M.S. and Koland, J.G. 2001. Heregulin-dependent activation of phosphoinositide 3-kinase and Akt via the ErbB-2/ErbB-3 co-receptor. *J. Biol. Chem.* 276: 42153-42161.
4. Ukita, Y., Kato, M. and Terada, T. 2002. Gene amplification and mRNA and protein overexpression of c-erbB-2 (HER-2/Neu) in human intrahepatic cholangiocarcinoma as detected by fluorescence *in situ* hybridization, *in situ* hybridization and immunohistochemistry. *J. Hepatol.* 36: 780-785.
5. 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

Neu (C-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 983-1017 within a cytoplasmic domain of Neu of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-374382 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## STORAGE

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

## APPLICATIONS

Neu (C-12) is recommended for detection of Neu of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 (C-12) 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.

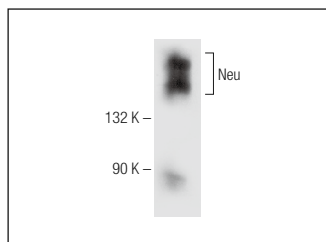
Molecular Weight of Neu: 185 kDa.

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

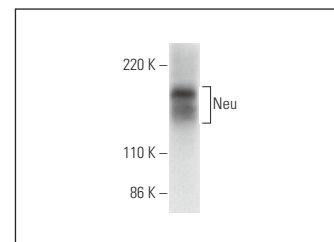
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



Neu (C-12): sc-374382. Western blot analysis of Neu expression in SK-BR-3 whole cell lysate.



Neu (C-12): sc-374382. Western blot analysis of Neu expression in MCF7 whole cell lysate.

## RESEARCH USE

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



See **Neu (3B5): sc-33684** for Neu antibody antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.