

Neu (C-3): sc-377344

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: 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.

CHROMOSOMAL LOCATION

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

SOURCE

Neu (C-3) is a mouse monoclonal 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_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Neu (C-3) 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

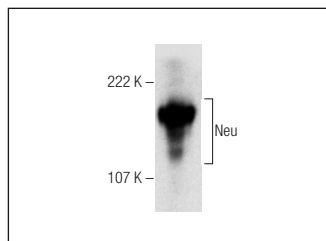
Molecular Weight of Neu: 185 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, SK-BR-3 cell lysate: sc-2218 or T-47D cell lysate: sc-2293.

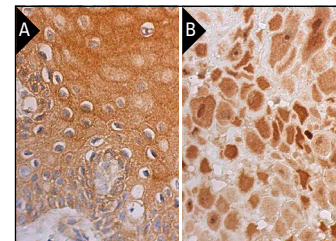
STORAGE

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

DATA



Neu (C-3): sc-377344. Western blot analysis of Neu expression in SK-BR-3 whole cell lysate.



Neu (C-3): sc-377344. Immunoperoxidase staining of formalin fixed, paraffin-embedded human uterine cervix tissue showing cytoplasmic and membrane staining of squamous epithelial cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic and nuclear staining of decidual cells (B).

SELECT PRODUCT CITATIONS

1. Slanina, H., et al. 2014. Role of epidermal growth factor receptor signaling in the interaction of *Neisseria meningitidis* with endothelial cells. *Infect. Immun.* 82: 1243-1255.
2. Simonis, A., et al. 2014. Differential activation of acid sphingomyelinase and ceramide release determines invasiveness of *Neisseria meningitidis* into brain endothelial cells. *PLoS Pathog.* 10: e1004160.
3. Wang, H., et al. 2015. Syndecan-1 and Syndecan-4 capture epidermal growth factor receptor family members and the $\alpha\beta 1$ Integrin via binding sites in their ectodomains: novel synstatins prevent kinase capture and inhibit $\alpha\beta 4$ -Integrin-dependent epithelial cell motility. *J. Biol. Chem.* 290: 26103-26113.
4. Rathore, M., et al. 2022. Liver endothelium microenvironment promotes HER3-mediated cell growth in pancreatic ductal adenocarcinoma. *J. Cancer Sci. Clin. Ther.* 6: 431-445.

RESEARCH USE

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

PROTOCOLS

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

CONJUGATES

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