SANTA CRUZ BIOTECHNOLOGY, INC.

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.

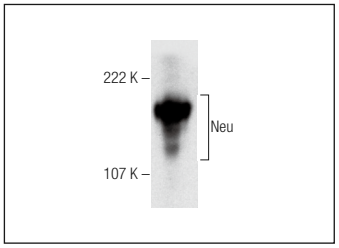
Molecular Weight of Neu: 185 kDa.

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

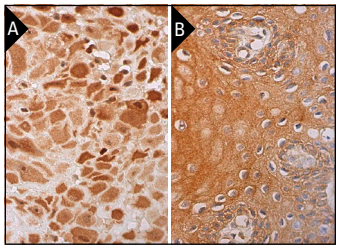
STORAGE

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 $\alpha 3\beta 1$ Integrin via binding sites in their ectodomains: novel synstatins prevent kinase capture and inhibit $\alpha 6\beta 4$-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.
5. Jin, M., et al. 2023. $ErbB2_{pY\text{-}1248}$ as a predictive biomarker for Parkinson's disease based on research with RPPA technology and *in vivo* verification. CNS Neurosci. Ther. 30: e14407.

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.