SANTA CRUZ BIOTECHNOLOGY, INC.

Neu (0.N.211): sc-71667

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. 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.
2. Hellyer, N.J., et al. 2001. Heregulin-dependent activation of phosphoinositide 3-kinase and Akt via the ErbB-2/ErbB-3 co-receptor. J. Biol. Chem. 276: 42153-42161.

CHROMOSOMAL LOCATION

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

SOURCE

Neu (0.N.211) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to amino acids 1242-1255 of Neu of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Neu (0.N.211) is recommended for detection of Neu of mouse, rat and human origin by Western Blotting (starting dilution 1:5000, dilution range 1:5000-1:10000), 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 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.

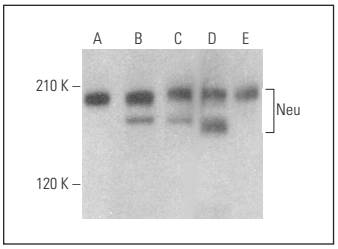
Molecular Weight of Neu: 185 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, MDA-MB-231 cell lysate: sc-2232 or NIH/3T3 whole cell lysate: sc-2210.

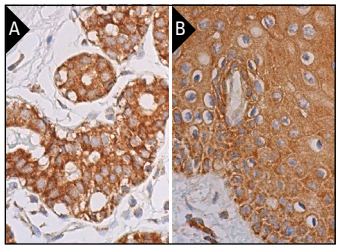
STORAGE

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

DATA



Neu (0.N.211): sc-71667. Western blot analysis of Neu expression in OVCAR-3 (**A**), MDA-MB-231 (**B**), MCF7 (**C**), A-431 (**D**) and NIH/3T3 (**E**) whole cell lysates.



Neu (0.N.211): sc-71667. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing cytoplasmic staining of glandular cells and myoepithelial cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human uterine cervix tissue showing cytoplasmic staining of squamous epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Gravina, G.L., et al. 2009. Bicalutamide demonstrates biologic effectiveness in prostate cancer cell lines and tumor primary cultures irrespective of HER2/Neu expression levels. Urology 74: 452-457.
2. Maiti, K.K., et al. 2010. Development of biocompatible SERS nanotag with increased stability by chemisorption of reporter molecule for *in vivo* cancer detection. Biosens. Bioelectron. 26: 398-403.
3. Li, M., et al. 2011. An HR-MAS MR metabolomics study on breast tissues obtained with core needle biopsy. PLoS ONE 6: e25563.
4. Maiti, K.K., et al. 2012. Multiplex targeted *in vivo* cancer detection using sensitive near-infrared SERS nanotags. Nanotoday 7: 85-93.
5. Ramya, A., et al. 2015. New insight of squaraine-based biocompatible surface-enhanced Raman scattering nanotag for cancer-cell imaging. Nanomedicine 10: 561-571.
6. Yuan, J., et al. 2018. Vitamin D receptor activation influences the ERK pathway and protects against neurological deficits and neuronal death. Int. J. Mol. Med. 41: 364-372.
7. Zarredar, H., et al. 2019. Combination therapy with KRAS siRNA and EGFR inhibitor AZD8931 suppresses lung cancer cell growth *in vitro*. J. Cell. Physiol. 234: 1560-1566.

RESEARCH USE

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

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.