SANTA CRUZ BIOTECHNOLOGY, INC.

Neu (3B5): sc-33684

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.

CHROMOSOMAL LOCATION

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

SOURCE

Neu (3B5) 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.

Neu (3B5) is available conjugated to agarose (sc-33684 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-33684 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-33684 PE), fluorescein (sc-33684 FITC), Alexa Fluor® 488 (sc-33684 AF488), Alexa Fluor® 546 (sc-33684 AF546), Alexa Fluor® 594 (sc-33684 AF594) or Alexa Fluor® 647 (sc-33684 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-33684 AF680) or Alexa Fluor® 790 (sc-33684 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Neu (3B5) 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 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, Neu shRNA (r) Lentiviral Particles: sc-108038-V.

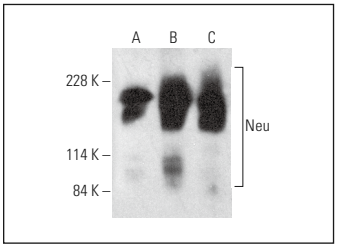
Molecular Weight of Neu: 185 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

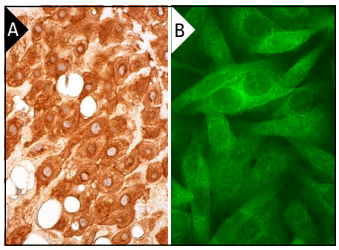
STORAGE

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

DATA



Neu (3B5) HRP: sc-33684 HRP. Direct western blot analysis of Neu expression in MDA-MB-231 (**A**), A-431 (**B**) and NIH/3T3 (**C**) whole cell lysates.



Neu (3B5): sc-33684. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic and membrane staining of decidual cells (**A**). Neu (3B5) Alexa Fluor® 488: sc-33684 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing cytoplasmic and membrane localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (**B**).

SELECT PRODUCT CITATIONS

1. Wen, Y., et al. 2008. Interplay between cyclin-dependent kinase 5 and glycogen synthase kinase 3β mediated by neuregulin signaling leads to differential effects on Tau phosphorylation and amyloid precursor protein processing. J. Neurosci. 28: 2624-2632.
2. Panis, C., et al. 2015. The positive is inside the negative: HER2-negative tumors can express the HER2 intracellular domain and present a HER2-positive phenotype. Cancer Lett. 357: 186-195.
3. Jiang, Q., et al. 2016. Neuregulin-1 (Nrg1) signaling has a preventive role and is altered in the frontal cortex under the pathological conditions of Alzheimer's disease. Mol. Med. Rep. 14: 2614-2624.
4. Zeng, X., et al. 2017. FEN1 knockdown improves trastuzumab sensitivity in human epidermal growth factor 2-positive breast cancer cells. Exp. Ther. Med. 14: 3265-3272.
5. Janardhan, K.S., et al. 2018. Immunohistochemistry in investigative and toxicologic pathology. Toxicol. Pathol. 46: 488-510.
6. Wu, S., et al. 2019. HER2 recruits AKT1 to disrupt STING signalling and suppress antiviral defence and antitumour immunity. Nat. Cell Biol. 21: 1027-1040.
7. Hisey, C.L., et al. 2020. Towards establishing extracellular vesicle-associated RNAs as biomarkers for HER2+ breast cancer. F1000Res. 9: 1362.
8. Li, Y., et al. 2021. Combination of curcumin and ginkgolide B inhibits cystogenesis by regulating multiple signaling pathways. Mol. Med. Rep. 23: 195.

RESEARCH USE

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