SANTA CRUZ BIOTECHNOLOGY, INC.

Neu (24D2): sc-23864

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 hetero-dimerization 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., et al. 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.
3. Hellyer, N.J., et al. 2001. Heregulin-dependent activation of phosphoinositide 3-kinase and Akt via the ErbB2/ErbB3 co-receptor. J. Biol. Chem. 276: 42153-42161.
4. Baxevanis, C.N., et al. 2002. HER-2/Neu-derived peptide epitopes are also recognized by cytotoxic $CD3^+CD56^+$ (natural killer T) lymphocytes. Int. J. Cancer 98: 864-872.
5. Hayes, D.F., et al. 2002. c-ErbB-2 in breast cancer: development of a clinically useful marker. Semin. Oncol. 29: 231-245.
6. Ukita, Y., et al. 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.
7. Cho, H.S., et al. 2003. Structure of the extracellular region of HER2 alone and in complex with the Herceptin Fab. Nature 421: 756-760.

CHROMOSOMAL LOCATION

Genetic locus: ERBB2 (human) mapping to 17q12.

SOURCE

Neu (24D2) is a mouse monoclonal antibody raised against 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 (24D2) is available conjugated to either phycoerythrin (sc-23864 PE) or fluorescein (sc-23864 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

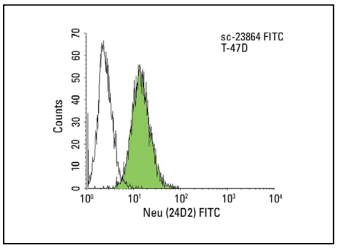
APPLICATIONS

Neu (24D2) is recommended for detection of Neu of human origin by flow cytometry (1 µg per 1 x 10^6 cells).

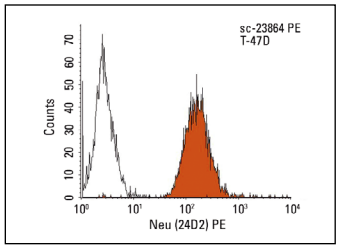
Suitable for use as control antibody for Neu siRNA (h): sc-29405, Neu shRNA Plasmid (h): sc-29405-SH and Neu shRNA (h) Lentiviral Particles: sc-29405-V.

Molecular Weight of Neu: 185 kDa.

DATA



Neu (24D2) FITC: sc-23864 FITC. FCM analysis of T-47D cells. Black line histogram represents the isotype control, normal mouse IgG_1-FITC: sc-2855.



Neu (24D2) PE: sc-23864 PE. FCM analysis of T-47D cells. Black line histogram represents the isotype control, normal mouse IgG_1-PE: sc-2866.

SELECT PRODUCT CITATIONS

1. Albitar, L., et al. 2005. Regulation of signaling phosphoproteins by epidermal growth factor and Iressa (ZD1839) in human endometrial cancer cells that model type I and II tumors. Mol. Cancer Ther. 4: 1891-1899.
2. Yang, S., et al. 2007. Mapping ErbB receptors on breast cancer cell membranes during signal transduction. J. Cell Sci. 120: 2763-2773.
3. Liu, H., et al. 2009. Regulation of ErbB2 receptor status by the proteasomal DUB POH1. PLoS ONE 4: e5544.
4. Kiel, C., et al. 2014. Quantification of ErbB network proteins in three cell types using complementary approaches identifies cell-general and cell-type-specific signaling proteins. J. Proteome Res. 13: 300-313.
5. Wu, Y., et al. 2015. Exosomes: improved methods to characterize their morphology, RNA content, and surface protein biomarkers. Analyst 140: 6631-6642.
6. Raimbourg, J., et al. 2017. Sensitization of EGFR wild-type non-small cell lung cancer cells to EGFR-tyrosine kinase inhibitor erlotinib. Mol. Cancer Ther. 16: 1634-1644.
7. Maczynska, J., et al. 2020. Immunomodulatory activity of IR700-labelled affibody targeting HER2. Cell Death Dis. 11: 886.

STORAGE

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

RESEARCH USE

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