

# Neuregulin-3 (D-3): sc-390171

## BACKGROUND

The ErbB/HER family of receptor tyrosine kinases consists of four receptors that bind a large number of growth factor ligands sharing an epidermal growth factor-(EGF)-like motif. The neuregulins (NRGs) are a diverse family of proteins that arise by alternative splicing from a single gene. These proteins play an important role in controlling the growth and differentiation of glial, epithelial, and muscle cells. Whereas ErbB-1 binds seven different ligands whose prototype is EGF, the four families of neuregulins activate ErbB-3 and/or ErbB-4. Neuregulin-1 (also known as heregulin) has diverse functions in neural development, and one of them is to up-regulate the expression of acetylcholine receptors at muscle fibers during the formation of neuromuscular junctions. Neuregulin-2 exhibits a distinct expression pattern in adult brain and developing heart. Neuregulin-3 is expressed in cell lines derived from breast cancer and is a potential regulator of normal and malignant breast epithelial cells. Neuregulin-4 is detected in the adult pancreas and weakly in muscle.

## REFERENCES

1. Yarden, Y., et al. 1988. Growth factor receptor tyrosine kinases. *Annu. Rev. Biochem.* 57: 433-478.
2. Coussens, L., et al. 1985. Tyrosine kinase receptor with extensive homology to EGF receptor shares chromosomal location with neu oncogene. *Science* 230: 1132-1139.
3. Holmes, W.E., et al. 1992. Identification of heregulin, a specific activator of p185<sup>erbB2</sup>. *Science* 256: 1205-1210.
4. Marchionni, M.A., et al. 1993. Glial growth factors are alternatively spliced erbB2 ligands expressed in the nervous system. *Nature* 362: 312-318.
5. Plowman, G.D., et al. 1993. Heregulin induces tyrosine phosphorylation of HER4/p180<sup>erbB4</sup>. *Nature* 366: 473-475.

## CHROMOSOMAL LOCATION

Genetic locus: NRG3 (human) mapping to 10q23.1; Nrg3 (mouse) mapping to 14 B.

## SOURCE

Neuregulin-3 (D-3) is a mouse monoclonal antibody raised against amino acids 276-345 mapping within an N-terminal extracellular domain of Neuregulin-3 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Neuregulin-3 (D-3) is available conjugated to agarose (sc-390171 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390171 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390171 PE), fluorescein (sc-390171 FITC), Alexa Fluor® 488 (sc-390171 AF488), Alexa Fluor® 546 (sc-390171 AF546), Alexa Fluor® 594 (sc-390171 AF594) or Alexa Fluor® 647 (sc-390171 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390171 AF680) or Alexa Fluor® 790 (sc-390171 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

Neuregulin-3 (D-3) is recommended for detection of Neuregulin-3 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Neuregulin-3 (D-3) is also recommended for detection of Neuregulin-3 in additional species, including equine and bovine.

Suitable for use as control antibody for Neuregulin-3 siRNA (h): sc-45301, Neuregulin-3 siRNA (m): sc-45302, Neuregulin-3 shRNA Plasmid (h): sc-45301-SH, Neuregulin-3 shRNA Plasmid (m): sc-45302-SH, Neuregulin-3 shRNA (h) Lentiviral Particles: sc-45301-V and Neuregulin-3 shRNA (m) Lentiviral Particles: sc-45302-V.

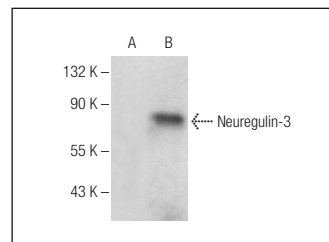
Molecular Weight of Neuregulin-3: 78 kDa.

Positive Controls: SK-BR-3 nuclear extract: sc-2134, MCF7 whole cell lysate: sc-2206 or SK-BR-3 cell lysate: sc-2218.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



Neuregulin-3 (D-3): sc-390171. Western blot analysis of Neuregulin-3 expression in non-transfected (A) and human Neuregulin-3 transfected (B) HEK293T whole cell lysates.

## 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.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA