

# Neuregulin-3 (D-19): sc-34223

## 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

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3. Holmes, W.E., et al. 1992. Identification of heregulin, a specific activator of p185ErbB-4. *Nature* 366: 473-475.
4. Marchionni, M.A., et al. 1993. Glial growth factors are alternatively spliced ErbB-2 ligands expressed in the nervous system. *Nature* 362: 312-318.
5. Plowman, G.D., et al. 1993. Heregulin induces tyrosine phosphorylation of HER4/p180erbB-4. *Nature* 366: 473-475.
6. Carraway, K.L. III., et al. 1994. The ErbB-3 gene product is a receptor for heregulin. *J. Biol. Chem.* 269: 14303-14306.
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8. Sliwkowski, M.X., et al. 1994. Coexpression of ErbB-2 and ErbB-3 proteins reconstitutes a high affinity receptor for heregulin. *J. Biol. Chem.* 269: 14661-14665.
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## CHROMOSOMAL LOCATION

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

## SOURCE

Neuregulin-3 (D-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of Neuregulin-3 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-34223 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Neuregulin-3 (D-19) is recommended for detection of Neuregulin-3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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-19) is also recommended for detection of Neuregulin-3 in additional species, including canine, bovine and porcine.

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 SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## 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.



Try **Neuregulin-3 (D-3): sc-390171**, our highly recommended monoclonal alternative to Neuregulin-3 (D-19).