

# Neuregulin-2 (A-12): sc-398594

## 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, one of which is to upregulate 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. Coussens, L., et al. 1985. Tyrosine kinase receptor with extensive homology to EGF receptor shares chromosomal location with neu oncogene. *Science* 230: 1132-1139.
2. Yarden, Y., et al. 1988. Growth factor receptor tyrosine kinases. *Annu. Rev. Biochem.* 57: 433-478.
3. Holmes, W.E., et al. 1992. Identification of heregulin, a specific activator of p185<sup>erbB4</sup>. *Science* 256: 1205-1210.

## CHROMOSOMAL LOCATION

Genetic locus: NRG2 (human) mapping to 5q31.2; Nrg2 (mouse) mapping to 18 B2.

## SOURCE

Neuregulin-2 (A-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 305-339 within an extracellular domain of Neuregulin-2 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-2 (A-12) is available conjugated to agarose (sc-398594 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398594 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398594 PE), fluorescein (sc-398594 FITC), Alexa Fluor® 488 (sc-398594 AF488), Alexa Fluor® 546 (sc-398594 AF546), Alexa Fluor® 594 (sc-398594 AF594) or Alexa Fluor® 647 (sc-398594 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398594 AF680) or Alexa Fluor® 790 (sc-398594 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398594 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## APPLICATIONS

Neuregulin-2 (A-12) is recommended for detection of Neuregulin-2 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).

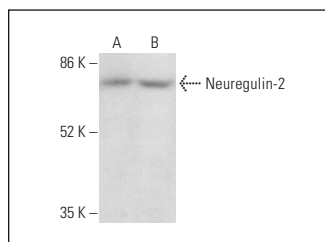
Suitable for use as control antibody for Neuregulin-2 siRNA (h): sc-45299, Neuregulin-2 siRNA (m): sc-147884, Neuregulin-2 shRNA Plasmid (h): sc-45299-SH, Neuregulin-2 shRNA Plasmid (m): sc-147884-SH, Neuregulin-2 shRNA (h) Lentiviral Particles: sc-45299-V and Neuregulin-2 shRNA (m) Lentiviral Particles: sc-147884-V.

Positive Controls: human brain extract: sc-364375 or rat brain extract: sc-2392.

## 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-2 (A-12): sc-398594. Western blot analysis of Neuregulin-2 expression in human brain (A) and rat brain (B) tissue extracts.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.