

Neuregulin-1 β 1/3/GGF2 (C-16): sc-1792

BACKGROUND

The neuregulins are a family of ErbB/HER ligands encoded by four genes. Neuregulin-1 gene, NRG-1, encodes numerous splice variants with differing transcription initiation sites. Neuregulin-1 includes a range of isoforms with varying glycosylation, regulation of expression and function. Neuregulin-1 splice variants each bear an EGF-like domain, though, otherwise have unique domain structures, differing functions, and discrete tissue distribution. Six types of Neuregulin-1 isoform groups have been defined based on their structural features. Three types are most often described, type I (ARIA, NDF, or HRG), type II (GGF), and type III (SMDF). Neuregulin-1 has been linked to schizophrenia and has diverse neural functions. Neuregulin-1 affects cell migration, the differentiation of neural crest and Schwann cells and acts to upregulate the expression of acetylcholine receptors at muscle fibers during the formation of neuromuscular junctions.

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. Holmes, W.E., et al. 1992. Identification of heregulin, a specific activator of p185^{ErbB-4}. *Science* 256: 1205-1210.
3. Marchionni, M.A., et al. 1993. Glial growth factors are alternatively spliced ErbB-2 ligands expressed in the nervous system. *Nature* 362: 312-318.
4. Meyer, D., et al. 1997. Isoform-specific expression and function of neuregulin. *Development* 124: 3575-3586
5. Britsch, S., et al. 1998. The ErbB2 and ErbB3 receptors and their ligand, Neuregulin-1, are essential for development of the sympathetic nervous system. *Genes Dev.* 12: 1825-1836.
6. Osheroff, P.L., et al. 1999. Receptor binding and biological activity of mammalian expressed sensory and motor neuron-derived factor (SMDF). *Growth Factors* 16: 241-253.
7. Steinthorsdottir, V., et al. 2004. Multiple novel transcription initiation sites for NRG1. *Gene* 342: 97-105.

CHROMOSOMAL LOCATION

Genetic locus: NRG1 (human) mapping to 8p12, NRG3 (human) mapping to 10q23.1; Nrg1 (mouse) mapping to 8 A3, Nrg3 (mouse) mapping to 14 B.

SOURCE

Neuregulin-1 β 1/3/GGF2 (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Neuregulin-1 isoform HRG- β 1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-1792 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

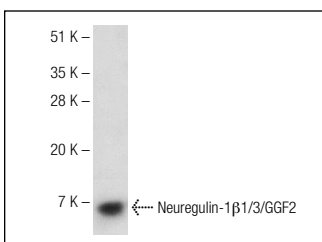
Neuregulin-1 β 1/3/GGF2 (C-16) is recommended for detection of Neuregulin-1 isoforms HRG- β 1, HRG- β 3 (GGF), GGF2, SMDF and, to a lesser extent, Neuregulin-3, of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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-1 β 1/3/GGF2 (C-16) is also recommended for detection of Neuregulin-1 isoforms HRG- β 1, HRG- β 3 (GGF), GGF2, SMDF and, to a lesser extent, Neuregulin-3 in additional species, including equine, canine, porcine and avian.

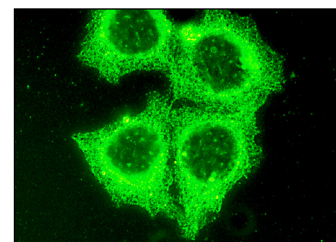
Molecular Weight of HRG- β 1/HRG- β 3/GGF2/SMDF: 71/26/45/32 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, A-431 whole cell lysate: sc-2201 or MDA-MB-231 cell lysate: sc-2232.

DATA



Neuregulin-1 β 1/3/GGF2 (C-16): sc-1792. Western blot analysis of human recombinant Neuregulin-1 β 1/3/GGF2.



Neuregulin-1 β 1/3/GGF2 (C-16): sc-1792. Immunofluorescence staining of methanol-fixed MCF7 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Fluge, O., et al. 2000. Expression of heregulins and associations with the ErbB family of tyrosine kinase receptors in papillary thyroid carcinomas. *Int. J. Cancer* 87: 763-770.
2. Gabrielson, K., et al. 2007. Heat shock protein 90 and ErbB2 in the cardiac response to doxorubicin injury. *Cancer Res.* 67: 1436-1441.

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.

MONOS
Satisfaction
Guaranteed

Try **Neuregulin-3 (D-3): sc-390171**, our highly recommended monoclonal alternative to Neuregulin-1 β 1/3/GGF2 (C-16).