

Neuregulin-1 β 1/3/GGF2 (C-20): sc-347

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.

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-20) is an affinity purified rabbit 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-347 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-20) is recommended for detection of Neuregulin-1 isoforms HRG- β 1, HRG- β 3 (GGF), GGF2 and, to a lesser extent, HRG- β 2 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-20) is also recommended for detection of Neuregulin-1 isoforms HRG- β 1, HRG- β 3 (GGF), GGF2 and, to a lesser extent, HRG- β 2 in additional species, including canine and bovine.

Suitable for use as control antibody for Neuregulin-1 siRNA (h): sc-37210, Neuregulin-1 siRNA (m): sc-37211, Neuregulin-1 shRNA Plasmid (h): sc-37210-SH, Neuregulin-1 shRNA Plasmid (m): sc-37211-SH, Neuregulin-1 shRNA (h) Lentiviral Particles: sc-37210-V and Neuregulin-1 shRNA (m) Lentiviral Particles: sc-37211-V.

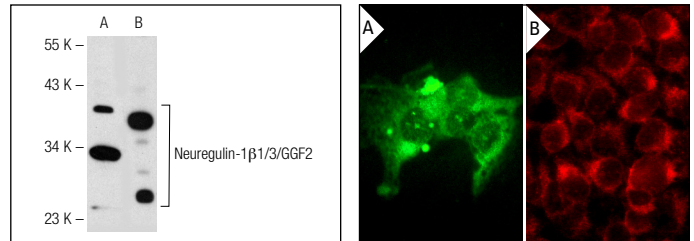
Molecular Weight of HRG- β 1/HRG- β 3/GGF2/SMDF: 71/26/45/ 32 kDa.

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

STORAGE

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

DATA



Neuregulin-1 β 1/3/GGF2 (C-20): sc-347. Western blot analysis of Neuregulin-1 β 1/3/GGF2 expression in THP-1 (A) and MDA-MB-231 (B) whole cell lysates.

Neuregulin-1 β 1/3/GGF2 (C-20): sc-347. Immunofluorescence staining of methanol-fixed MDA-MB-231 (A) and HeLa (B) cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Carroll, S.L., et al. 1997. Expression of neuregulins and their putative receptors, ErbB-2 and ErbB-3, is induced during Wallerian degeneration. *J. Neurosci.* 17: 1642-1659.
- Calbó, J., et al. 2002. G₁ cyclin/cyclin-dependent kinase-coordinated phosphorylation of endogenous pocket proteins differentially regulates their interactions with E2F4 and E2F1 and gene expression. *J. Biol. Chem.* 277: 50263-50274.
- Cabedo, H., et al. 2004. Oligomerization of the sensory and motor neuron-derived factor prevents protein O-glycosylation. *J. Biol. Chem.* 279: 33623-33629.
- Breuleux, M., et al. 2006. Heregulins implicated in cellular functions other than receptor activation. *Mol. Cancer Res.* 4: 27-37.
- Zuco, V. and Zunino, F. 2008. Cyclic pifithrin- α sensitizes wild type p53 tumor cells to antimicrotubule agent-induced apoptosis. *Neoplasia* 10: 587-596.
- Gomez-Sanchez, J.A., et al. 2009. Sustained axon-glial signaling induces Schwann cell hyperproliferation, Remak bundle myelination, and tumorigenesis. *J. Neurosci.* 29: 11304-11315.
- Yu, H., et al. 2011. Regulation of cigarette smoke-induced mucin expression by neuregulin1 β /ErbB3 signalling in human airway epithelial cells. *Basic Clin. Pharmacol. Toxicol.* 109: 63-72.

RESEARCH USE

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



Try **Neuregulin-1 (E-12): sc-393006** or **Neuregulin-1 α / β 1/2 (D-10): sc-393009**, our highly recommended monoclonal alternatives to Neuregulin-1 β 1/3/GGF2 (C-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Neuregulin-1 (E-12): sc-393006**.