

Neuregulin-1 α / β 1/2 (C-20): sc-348

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; Nrg1 (mouse) mapping to 8 A3.

SOURCE

Neuregulin-1 α / β 1/2 (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of Neuregulin-1 isoform HRG- α of human origin.

PRODUCT

Each vial contains 100 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-348 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Neuregulin-1 α / β 1/2 (C-20) is recommended for detection of Neuregulin-1 isoforms HRG- α , HRG- α 1A, HRG- β 1 and 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 α / β 1/2 (C-20) is also recommended for detection of Neuregulin-1 isoforms HRG- α , HRG- α 1A, HRG- β 1 and HRG- β 2 in additional species, including equine, canine, porcine and avian.

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- α /HRG- α 1A/HRG- α 2B: 70/71/51 kDa.

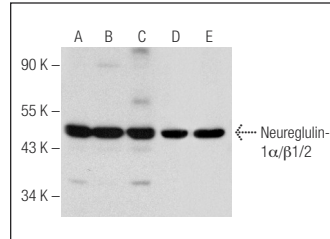
Molecular Weight of HRG- β 1/HRG- β 2/Type IV- β 1a: 71/70/65 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

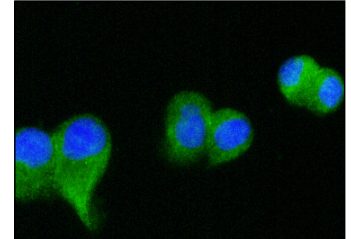
STORAGE

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

DATA



Neuregulin-1 α / β 1/2 (C-20): sc-348. Western blot analysis of Neuregulin-1 α / β 1/2 expression in A-431 (A), MCF7 (B), MDA-MB-231 (C), SK-BR-3 (D) and HeLa (E) whole cell lysates.



Neuregulin-1 α / β 1/2 (C-20): sc-348. Staining of methanol-fixed 3611-RF cells showing cytoplasmic immunostaining and nuclear DAPI counterstain.

SELECT PRODUCT CITATIONS

- Rimer, M., et al. 1998. Neuregulins and RrbB receptors at neuromuscular junctions and at Agrin-induced postsynaptic-like apparatus in skeletal muscle. *Mol. Cell. Neurosci.* 12: 1-15.
- Lemmens, K., et al. 2011. Activation of the neuregulin/ErbB system during physiological ventricular remodeling in pregnancy. *Am. J. Physiol. Heart Circ. Physiol.* 300: H931-H942.
- Benvegnù, S., et al. 2011. Aged PrP null mice show defective processing of neuregulins in the peripheral nervous system. *Mol. Cell. Neurosci.* 47: 28-35.
- Cheret, C., et al. 2013. Bace1 and Neuregulin-1 cooperate to control formation and maintenance of muscle spindles. *EMBO J.* 32: 2015-28.
- Fleck, D., et al. 2013. Dual cleavage of neuregulin 1 type III by BACE1 and ADAM17 liberates its EGF-like domain and allows paracrine signaling. *J. Neurosci.* 33: 7856-7869.
- Parra, L.M., et al. 2015. Distinct intracellular domain substrate modifications selectively regulate ectodomain cleavage of NRG1 or CD44. *Mol. Cell. Biol.* 35: 3381-3395.
- Hartmann, M., et al. 2015. Inside-out regulation of Ectodomain cleavage of cluster-of-differentiation-44 (CD44) and of Neuregulin-1 requires substrate dimerization. *J. Biol. Chem.* 290: 17041-17054.

RESEARCH USE

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


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Try **Neuregulin-1 α / β 1/2 (D-10): sc-393009**, our highly recommended monoclonal alternative to Neuregulin-1 α / β 1/2 (C-20).