SANTA CRUZ BIOTECHNOLOGY, INC.

Neuregulin-1α (C-19): sc-1791

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-1α (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Neuregulin-1 isoform HRG-α 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-1791 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Neuregulin-1α (C-19) is recommended for detection of Neuregulin-1 isoforms HRG-α and HRG-α2B and, to a lesser extent, HRG-α1A and HRG-α3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

Neuregulin-1α (C-19) is also recommended for detection of Neuregulin-1 isoforms HRG-α and HRG-α2B and, to a lesser extent, HRG-α1A and HRG-α3 in additional species, including equine and canine.

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 Neuregulin-1 Type I: 115 kDa.

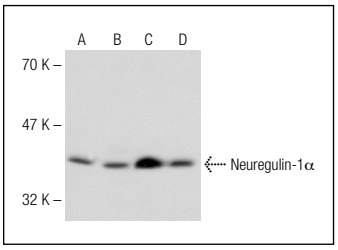
Molecular Weight of Neuregulin-1 Type II: 40 kDa.

Molecular Weight of Neuregulin-1 Type III: 83 kDa.

STORAGE

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

DATA



Neuregulin-1α (C-19): sc-1791. Western blot analysis of Neuregulin-1α expression in THP-1 (**A**), MCF7 (**B**), MDA-MB-231 (**C**) and A-673 (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Gilbertson, R.J., et al. 1997. Prognostic significance of HER2 and HER4 coexpression in childhood medulloblastoma. Cancer Res. 57: 3272-3280.
2. 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.
3. Fejzo, M.S., et al. 2001. Frozen tumor tissue microarray technology for analysis of tumor RNA, DNA, and proteins. Am. J. Pathol. 159: 1645-1650.
4. Calaora, V., et al. 2001. Neuregulin signaling regulates neural precursor growth and the generation of oligodendrocytes *in vitro*. J. Neurosci. 21: 4740-4751.
5. Crone, S.A., et al. 2003. Colonic epithelial expression of ErbB-2 is required for postnatal maintenance of the enteric nervous system. Neuron 37: 29-40.
6. Nadri, C., et al. 2007. Oxygen restriction of neonate rats elevates neuregulin-1α isoform levels: possible relationship to schizophrenia. Neurochem. Int. 51: 447-450.
7. 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.

RESEARCH USE

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