

# Neuritin (FL-142): sc-25651

## BACKGROUND

Neurotrophins function to regulate naturally occurring cell death of neurons during development. The prototype neurotrophin is nerve growth factor (NGF). NGF is a soluble peptide that promotes the survival of, and neurite outgrowth from, sympathetic ganglia. Three additional structurally homologous neurotrophic factors have been identified. These include brain-derived neurotrophic factor (BDNF), neurotrophin-3 (NT-3), and neurotrophin-4 (NT-4, also designated NT-5). Neuritin is a glycosylphosphatidylinositol-anchored protein that is induced by neural activity as well as by BDNF and NT-3. Neuritin modulates neurite growth extracellularly and is present in development and in the adult nervous system, indicating its involvement in neuronal plasticity. In addition to BDNF induction of Neuritin, it has been shown that both Neuritin and BDNF are induced by light stimulation of the visual cortex. Neuritin appears to be located downstream of BDNF and may mediate some of the effects of BDNF.

## REFERENCES

1. Oppenheim, R.W. 1991. Cell death during development of the nervous system. *Annu. Rev. Neuro.* 14: 453-501.
2. Thoenen, H. 1991. The changing scene of neurotrophic factors. *Trends Neurosci.* 14: 165-170.
3. Klein, R. 1994. Role of neurotrophins in mouse neuronal development. *FASEB J.* 8: 738-744.
4. Gotz, R., et al. 1994. The conservation of neurotrophic factors during vertebrate evolution. *Comp. Biochem. Physiol. Pharmacol. Toxicol. Endocrinol.* 108: 1-10.
5. Naeve, G.S., et al. 1997. Neuritin: a gene induced by neural activity and neurotrophins that promotes neuritogenesis. *Proc. Natl. Acad. Sci. USA* 94: 2648-2653.
6. Di Giovanni, S., et al. 2005. Neuronal plasticity after spinal cord injury: identification of a gene cluster driving neurite outgrowth. *FASEB J.* 19: 153-154.
7. Marron, T.U., et al. 2005. Androgen-induced neurite outgrowth is mediated by Neuritin in motor neurones. *J. Neurochem.* 92: 10-20.
8. Javaherian, A., et al. 2005. Coordinated motor neuron axon growth and neuromuscular synaptogenesis are promoted by CPG15 *in vivo*. *Neuron* 45: 505-512.

## CHROMOSOMAL LOCATION

Genetic locus: NRN1 (human) mapping to 6p25.1; Nrn1 (mouse) mapping to 13 A3.3.

## SOURCE

Neuritin (FL-142) is a rabbit polyclonal antibody raised against amino acids 1-142 representing full length Neuritin 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.

## APPLICATIONS

Neuritin (FL-142) is recommended for detection of Neuritin 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).

Neuritin (FL-142) is also recommended for detection of Neuritin in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Neuritin siRNA (h): sc-42064, Neuritin siRNA (m): sc-42065, Neuritin shRNA Plasmid (h): sc-42064-SH, Neuritin shRNA Plasmid (m): sc-42065-SH, Neuritin shRNA (h) Lentiviral Particles: sc-42064-V and Neuritin shRNA (m) Lentiviral Particles: sc-42065-V.

Molecular Weight of Neuritin: 15 kDa.

Positive Controls: Daudi cell lysate: sc-2415.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. Sato, H., et al. 2012. Thalamus-derived molecules promote survival and dendritic growth of developing cortical neurons. *J. Neurosci.* 32: 15388-15402.

## 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) or our catalog for detailed protocols and support products.



Try **Neuritin (B-9): sc-365538**, our highly recommended monoclonal alternative to Neuritin (FL-142).