SANTA CRUZ BIOTECHNOLOGY, INC.

# netrin-1 (N-18): sc-9291

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Netrin proteins are a family of laminin-related secreted proteins that provide guidance signals for axonal growth and cell migration during development. Netrin-1, which is the mammalian homolog of UNC-6 from *C. elegans*, is largely expressed in the developing nervous system and in mesodermal tissues. Netrin-1 is expressed by the floor plate as either a cell associated protein or in a diffusible form, and it binds to several surface receptor components, including deleted in colorectal cancer (DCC) and neogenin. During embryonic development, netrin-1 diffuses through the neuronal epithelium, where it forms a chemoattractant gradient that directs axonal migration to the ventral midline of the spinal cord. Netrin-2 and the corresponding mouse homolog netrin-3 are expressed primarily in the lower two-thirds of the spinal cord, and, like netrin-1, they can either attract or repel commissural axons at a distance. Netrin signaling is dependent on the concentration of calcium outside the cell and the level of PKA activity. In axonal cells, a reduction in PKA activity converts the responsiveness of the axons to the netrin proteins, as the cells are repelled, rather than attracted, by the netrin gradient.

## CHROMOSOMAL LOCATION

Genetic locus: NTN1 (human) mapping to 17p13.1; Ntn1 (mouse) mapping to 11 B3.

## SOURCE

netrin-1 (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of netrin-1 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-9291 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

netrin-1 (N-18) is recommended for detection of netrin-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

netrin-1 (N-18) is also recommended for detection of netrin-1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for netrin-1 siRNA (h): sc-42044, netrin-1 siRNA (m): sc-42045, netrin-1 shRNA Plasmid (h): sc-42044-SH, netrin-1 shRNA Plasmid (m): sc-42045-SH, netrin-1 shRNA (h) Lentiviral Particles: sc-42044-V and netrin-1 shRNA (m) Lentiviral Particles: sc-42045-V

Molecular Weight of netrin-1: 75 kDa.

Positive Controls: mouse heart extract: sc-2254.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS


1. Miura, T., et al. 2004. A mesenchyme-free culture system to elucidate the mechanism of otic vesicle morphogenesis. J. Anat. 205: 297-312.
2. Albright, C.D., et al. 2005. Maternal dietary choline availability alters the balance of netrin-1 and DCC neuronal migration proteins in fetal mouse brain hippocampus. Brain Res. Dev. Brain Res. 159: 149-154.
3. Link, B.C., et al. 2007. Prognostic implications of netrin-1 expression and its receptors in patients with adenocarcinoma of the pancreas. Ann. Surg. Oncol. 14: 2591-2599.
4. Löw, K., et al. 2008. Netrin-1 is a novel myelin-associated inhibitor to axon growth. J. Neurosci. 28: 1099-1108.
5. Dakouane-Giudicelli, M., et al. 2011. Hypoxia-inducible factor 1 controls the expression of the uncoordinated-5-B receptor, but not of netrin-1, in first trimester human placenta. Int. J. Dev. Biol. 55: 981-987.
6. Yang, Y., et al. 2012. TNF-α mediates macrophage-induced bystander effects through Netrin-1. Cancer Res. 72: 5219-5229.


## STORAGE

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

## PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.