SANTA CRUZ BIOTECHNOLOGY, INC.

# netrin-1 (H-104): sc-20786

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 (H-104) is a rabbit polyclonal antibody raised against amino acids 501-604 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.

## APPLICATIONS

netrin-1 (H-104) 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), 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).

netrin-1 (H-104) is also recommended for detection of netrin-1 in additional species, including equine, canine and bovine.

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, C6 whole cell lysate: sc-364373 or IMR-32 cell lysate: sc-2409.

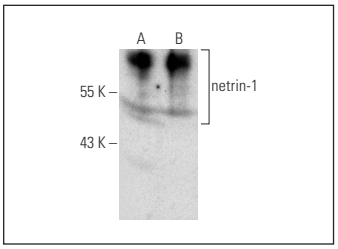
## RESEARCH USE

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

## STORAGE

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

## DATA




netrin-1 (H-104): sc-20786. Western blot analysis of netrin-1 expression in C6 (**A**) and IMR-32 (**B**) whole cell lysates.

## SELECT PRODUCT CITATIONS


1. Harter, P.N., et al. 2010. Spatio-temporal deleted in colorectal cancer (DCC) and netrin-1 expression in human foetal brain development. Neuropathol. Appl. Neurobiol. 36: 623-635.
2. Dakouane-Giudicelli, M., et al. 2010. Characterization and expression of netrin-1 and its receptors UNC5B and DCC in human placenta. J. Histochem. Cytochem. 58: 73-82.
3. Mirakaj, V., et al. 2011. Netrin-1 signaling dampens inflammatory peritonitis. J. Immunol. 186: 549-555.
4. Liu, N., et al. 2011. Effects of treadmill exercise on the expression of netrin-1 and its receptors in rat brain after cerebral ischemia. Neuroscience 194: 349-358.
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. Moon, C., et al. 2011. Immunohistochemical study of netrin-1 in the spinal cord with rat experimental autoimmune encephalomyelitis. Immunol. Invest. 40: 160-171.


## PROTOCOLS

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