

netrin-1 (A-7): sc-518135

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.

REFERENCES

1. Kennedy, T.E., et al. 1994. Netrins are diffusible chemotropic factors for commissural axons in the embryonic spinal cord. *Cell* 78: 425-435.
2. Colamarino, S.A., et al. 1995. The axonal chemoattractant netrin-1 is also a chemorepellent for trochlear motor axons. *Cell* 81: 621-629.
3. Livesey, F.J., et al. 1997. Netrin and netrin receptor expression in the embryonic mammalian nervous system suggests roles in retinal, striatal, nigral, and cerebellar development. *Mol. Cell. Neurosci.* 8: 417-429.
4. Van Raay, T.J., et al. 1997. The NTN2L gene encoding a novel human netrin maps to the autosomal dominant polycystic kidney disease region on chromosome 16p13.3. *Genomics* 41: 279-282.

CHROMOSOMAL LOCATION

Genetic locus: NTN1 (human) mapping to 17p13.1.

SOURCE

netrin-1 (A-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 18-44 near the N-terminus of netrin-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

netrin-1 (A-7) is available conjugated to agarose (sc-518135 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518135 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518135 PE), fluorescein (sc-518135 FITC), Alexa Fluor® 488 (sc-518135 AF488), Alexa Fluor® 546 (sc-518135 AF546), Alexa Fluor® 594 (sc-518135 AF594) or Alexa Fluor® 647 (sc-518135 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518135 AF680) or Alexa Fluor® 790 (sc-518135 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

netrin-1 (A-7) is recommended for detection of netrin-1 of human origin by Western Blotting (starting dilution 1:100, 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).

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

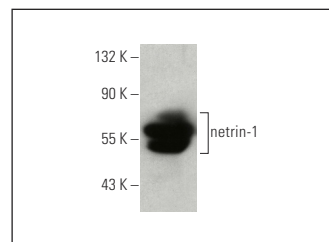
Molecular Weight of netrin-1: 75 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409.

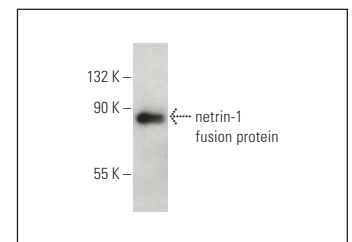
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



netrin-1 (A-7): sc-518135. Western blot analysis of netrin-1 expression in IMR-32 whole cell lysate. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



netrin-1 (A-7): sc-518135. Western blot analysis of human recombinant netrin-1 fusion protein.

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 for detailed protocols and support products.