SANTA CRUZ BIOTECHNOLOGY, INC.

netrin-3 (P-19): sc-46192

BACKGROUND

Netrin proteins are a family of laminin-related secreted proteins that provide guidance signals for axonal growth and cell migration during development. 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. Neogenin serves as the primary guidance receptor for netrin-3. 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-3 proteins are associated with the axon fibers projecting from motor neurons and from neurons within sympathetic and sensory ganglia, suggesting that netrin-3 may be involved in pathfinding and fasciculation of axon projection. Neogenin serves as the primary guidance receptor for netrin-3. During peripheral nerve development, high netrin-3 expression has been detected in mesenchymal cells, sensory ganglia and muscles. In humans, the gene encoding for the netrin-3 protein is localized to chromosome 16p13.3.

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. 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.
3. Ming, G.L., et al. 1997. cAMP-dependent growth cone guidance by netrin-1. Neuron 19: 1225-1235.
4. Wang, H., et al. 1999. Netrin-3, a mouse homolog of human NTN2L, is highly expressed in sensory ganglia and shows differential binding to netrin receptors. J. Neurosci. 19: 4938-4947.
5. Kang, J.S., et al. 2004. Netrins and neogenin promote myotube formation. J. Cell Biol. 167: 493-504.
6. SWISS-PROT/TrEMBL (O00634). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html

CHROMOSOMAL LOCATION

Genetic locus: Ntn2l (mouse) mapping to 17 A3.3.

SOURCE

netrin-3 (P-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of netrin-3 of mouse 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-46192 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

netrin-3 (P-19) is recommended for detection of netrin-3 of mouse and rat 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).

Suitable for use as control antibody for netrin-3 siRNA (m): sc-42049.

Molecular Weight of netrin-3: 62 kDa.

Positive Controls: sensory ganglia or spinal cord.

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.

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 or our catalog for detailed protocols and support products.