SANTA CRUZ BIOTECHNOLOGY, INC.

netrin-4 (H-230): sc-67000

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 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. netrin-4 is related to the Laminin β chains, and is therefore also designated β-netrin. It is present in the basement membranes of the vasculature, lateral olfactory tract, kidney and ovary. In humans, the gene encoding for the netrin-4 protein is localized to chromosome 12q22. High levels of netrin-4 mRNA have also been detected in many cells and tissues, including cerebral cortex, hippocampus, amygdaloid nuclei and Purkinje cells. netrin-4 is important in neural, kidney and vascular development.

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. 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.
4. Koch, M., et al. 2000. A novel member of the netrin family, β-netrin, shares homology with the β chain of Laminin: identification, expression, and functional characterization. J. Cell Biol. 151: 221-234.
5. Liu, Y., et al. 2004. Novel role for netrins in regulating epithelial behavior during lung branching morphogenesis. Curr. Biol. 14: 897-905.
6. Zhang, C., et al. 2004. Identification of a novel alternative splicing form of human netrin-4 and analyzing the expression patterns in adult rat brain. Brain Res. Mol. Brain Res. 130: 68-80.

CHROMOSOMAL LOCATION

Genetic locus: NTN4 (human) mapping to 12q22; Ntn4 (mouse) mapping to 10 C2.

SOURCE

netrin-4 (H-230) is a rabbit polyclonal antibody raised against amino acids 399-628 mapping at the C-terminus of netrin-4 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.

STORAGE

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

APPLICATIONS

netrin-4 (H-230) is recommended for detection of netrin-4 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-4 (H-230) is also recommended for detection of netrin-4 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for netrin-4 siRNA (h): sc-44504, netrin-4 siRNA (m): sc-44505, netrin-4 shRNA Plasmid (h): sc-44504-SH, netrin-4 shRNA Plasmid (m): sc-44505-SH, netrin-4 shRNA (h) Lentiviral Particles: sc-44504-V and netrin-4 shRNA (m) Lentiviral Particles: sc-44505-V.

Molecular Weight of netrin-4: 70 kDa.

Positive Controls: mouse brain extract: sc-2253, HeLa whole cell lysate: sc-2200 or IMR-32 cell lysate: sc-2409.

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.

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.