

Astrotactin 2 (T-20): sc-54865

BACKGROUND

Neuronal migration of the central nervous system is a specialized form of cell motility that takes place in the laminar structure of the cortical regions of brain. Astrotactin is a neuronal cell surface protein expressed on postmitotic neuronal precursors in the cerebellum, hippocampus, cerebrum, and olfactory bulb. Astrotactin 2 is a paralog of Astrotactin. Astrotactin mediates neuron-astroglial interactions and is also implicated in synaptic development as well as many other neuronal activities. Astrotactin has three epidermal growth factor repeat domains and two fibronectin type III repeat domains. The human Astrotactin gene shows extensive homology to the mouse Astrotactin gene. Mutations in the Astrotactin gene are linked to neuronal migration defects in both species.

REFERENCES

- Edmondson, J.C., Liem, R.K., Kuster, J.E. and Hatten, M.E. 1988. Astrotactin: a novel neuronal cell surface antigen that mediates neuron-astroglial interactions in cerebellar microcultures. *J. Cell Biol.* 106: 505-517.
- Stitt, T.N. and Hatten, M.E. 1990. Antibodies that recognize Astrotactin block granule neuron binding to astroglia. *Neuron* 5: 639-649.
- Fishell, G. and Hatten, M.E. 1992. Astrotactin provides a receptor system for CNS neuronal migration. *Development* 113: 755-765.
- Zheng, C., Heintz, N. and Hatten, M.E. 1996. CNS gene encoding Astrotactin, which supports neuronal migration along glial fibers. *Science* 272: 417-419.
- Adams, N.C., Tomoda, T., Cooper, M., Dietz, G. and Hatten, M.E. 2002. Mice that lack Astrotactin have slowed neuronal migration. *Development* 129: 965-972.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 600904. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Chen, Y.T., Collins, L.L., Uno, H. and Chang, C. 2005. Deficits in motor coordination with aberrant cerebellar development in mice lacking testicular orphan nuclear receptor 4. *Mol. Cell. Biol.* 25: 2722-2732.
- Tárnok, K., Czírók, A., Czöndör, K. and Schlett, K. 2005. Cerebellar granule cells show age-dependent migratory differences *in vitro*. *J. Neurobiol.* 65: 135-145.

CHROMOSOMAL LOCATION

Genetic locus: ASTN2 (human) mapping to 9q33.1; Atn2 (mouse) mapping to 4 C1.

SOURCE

Astrotactin 2 (T-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of astrotactin 2 of human origin.

RESEARCH USE

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

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-54865 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Astrotactin 2 (T-20) is recommended for detection of astrotactin 2 of mouse 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).

Astrotactin 2 (T-20) is also recommended for detection of astrotactin 2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Astrotactin 2 siRNA (h): sc-62000, Astrotactin 2 siRNA (m): sc-62001, Astrotactin 2 shRNA Plasmid (h): sc-62000-SH, Astrotactin 2 shRNA Plasmid (m): sc-62001-SH, Astrotactin 2 shRNA (h) Lentiviral Particles: sc-62000-V and Astrotactin 2 shRNA (m) Lentiviral Particles: sc-62001-V.

Molecular Weight of Astrotactin 2: 148 kDa.

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.

PROTOCOLS

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