

Astrotactin (H-9): sc-514299

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 that is expressed on postmitotic neuronal precursors in the cerebellum, hippocampus, cerebrum and olfactory bulb. It 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 maps to 1q25.2 and shows extensive homology to the mouse Astrotactin gene. Mutations in the Astrotactin gene are linked to neuronal migration defects in both species.

REFERENCES

1. Edmondson, J.C., et al. 1988. Astrotactin: a novel neuronal cell surface antigen that mediates neuron-astroglial interactions in cerebellar microcultures. *J. Cell Biol.* 106: 505-517.
2. Stitt, T.N. and Hatten, M.E. 1990. Antibodies that recognize Astrotactin block granule neuron binding to astroglia. *Neuron* 5: 639-649.
3. Fishell, G. and Hatten, M.E. 1992. Astrotactin provides a receptor system for CNS neuronal migration. *Development* 113: 755-765.
4. Zheng, C., et al. 1996. CNS gene encoding Astrotactin, which supports neuronal migration along glial fibers. *Science* 272:417-419.
5. Adams, N.C., et al. 2002. Mice that lack Astrotactin have slowed neuronal migration. *Development* 129: 965-972.

CHROMOSOMAL LOCATION

Genetic locus: ASTN1 (human) mapping to 1q25.2; Astn1 (mouse) mapping to 1 H1.

SOURCE

Astrotactin (H-9) is a mouse monoclonal antibody raised against amino acids 736-938 mapping within an internal region of Astrotactin of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Astrotactin (H-9) is available conjugated to agarose (sc-514299 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514299 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514299 PE), fluorescein (sc-514299 FITC), Alexa Fluor® 488 (sc-514299 AF488), Alexa Fluor® 546 (sc-514299 AF546), Alexa Fluor® 594 (sc-514299 AF594) or Alexa Fluor® 647 (sc-514299 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514299 AF680) or Alexa Fluor® 790 (sc-514299 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

Astrotactin (H-9) is recommended for detection of Astrotactin of mouse, rat and 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 Astrotactin siRNA (h): sc-60216, Astrotactin siRNA (m): sc-60217, Astrotactin shRNA Plasmid (h): sc-60216-SH, Astrotactin shRNA Plasmid (m): sc-60217-SH, Astrotactin shRNA (h) Lentiviral Particles: sc-60216-V and Astrotactin shRNA (m) Lentiviral Particles: sc-60217-V.

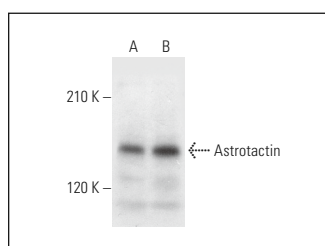
Molecular Weight of Astrotactin: 145 kDa.

Positive Controls: mouse brain extract: sc-2253, IMR-32 cell lysate: sc-2409 or T98G cell lysate: sc-2294.

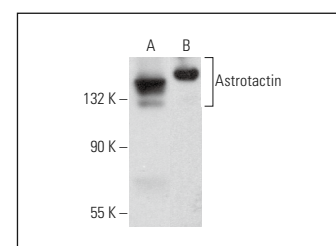
RECOMMENDED SUPPORT REAGENTS

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



Astrotactin (H-9): sc-514299. Western blot analysis of Astrotactin expression in IMR-32 (A) and T98G (B) whole cell lysates.



Astrotactin (H-9): sc-514299. Western blot analysis of Astrotactin expression in mouse brain (A) and rat brain (B) tissue extracts.

SELECT PRODUCT CITATIONS

1. Chen, Q.F., et al. 2020. ASTN1 is associated with immune infiltrates in hepatocellular carcinoma, and inhibits the migratory and invasive capacity of liver cancer via the Wnt/β-catenin signaling pathway. *Oncol. Rep.* 44: 1425-1440.

RESEARCH USE

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