SANTA CRUZ BIOTECHNOLOGY, INC.

Sc1 (P-18): sc-15497

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The Power to Question

BACKGROUND

Extracellular matrix molecules (ECM) play important roles in influencing cell shape, proliferation and migration during neurogenesis. Sc1 (also designated hevin, Mast9 and ECM2) is a secreted ECM glycoprotein related to SPARC that exhibits anti-adhesive properties. Sc1 and SPARC share sequence similarity in their C-terminus. Sc1 mRNA is highly expressed in the embryonic brain and spinal cord as well as in the adult brain and retina and its expression is both spatially and temporally regulated. This suggests that Sc1 plays an important role in the developing nervous system. Sc1 mRNA levels are induced in different cell populations in the adult forebrain in responding to localized injury. Sc1 mRNA is localized to the distal processes of Bergmann glial cells in the synapse-rich molecular layer of the cerebellum and can facilitate local control of Sc1 protein synthesis, indicating that Sc1 may play roles in synapse formation during development and in synaptic plasticity in the adult. Sc1 co-localizes with the astrocyte marker glial fibrillary acidic protein (GFAP) in the adult rodent brain. Thus, Sc1 is also an astrocyte marker.

REFERENCES

1. Mendis, D.B., Ivy, G.O., and Brown, I.R. 2000. Induction of SC1 mRNA encoding a brain extracellular matrix glycoprotein related to SPARC following lesioning of the adult rat forebrain. Neurochem. Res. 25: 1637-1644.
2. McKinnon, P.J., Kapsetaki, M., and Margolskee, R.F. 1996. The exon structure of the mouse Sc1 gene is very similar to the mouse Sparc gene. Genome Res. 6:1077-1083.
3. Mothe, A.J. and Brown, I.R. 2001. Differential mRNA expression of the related extracellular matrix glycoproteins SC1 and SPARC in the rat embryonic nervous system and skeletal structure. Brain. Res. 892: 27-41.
4. Mothe, A.J. and Brown, I.R. 2000. Selective transport of SC1 mRNA, encoding a putative extracellular matrix glycoprotein, during postnatal development of the rat cerebellum and retina. Brain Res. Mol. Brain Res. 76: 73-84.
5. McKinnon, P.J., McLaughlin, S.K., Kapsetaki, M., and Margolskee, R.F. 2000. Extracellular matrix-associated protein Sc1 is not essential for mouse development. Mol. Cell. Biol. 20: 656-660.
6. McKinnon, P.J. and Margolskee, R.F. 1996. Sc1: a marker for astrocytes in the adult rodent brain is upregulated during reactive astrocytosis. Brain Res. 709: 27-36.

CHROMOSOMAL LOCATION

Genetic locus: SPARCL1 (human) mapping to 4q22.1; Sparcl1 (mouse) mapping to 5 55.0 cM (5 E4).

SOURCE

Sc1 (P-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Sc1 of rat 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-15497 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Sc1 (P-18) is recommended for detection of Sc1 of 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).

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.