



SEMA4A (m): 293T Lysate: sc-123447

BACKGROUND

Semaphorins are a family of cell surface and secreted proteins that are conserved from insects to humans. Members of this family of proteins are approximately 750 amino acids in length (including signal sequences) and are defined by a conserved extracellular "semaphorin" domain of approximately 500 amino acids containing 14-16 cysteines, blocks of conserved sequences and no obvious repeats. The transmembrane semaphorins are characterized by an additional 80 amino acid transmembrane domain and an 80-110 amino acid cytoplasmic domain. Secreted and cell-bound semaphorins chemically attract and repel the growth of neural axons, guiding the development of intricate networks of neural tissue. Semaphorin 4A (SEMA4A), also designated semaphorin B, is a type I membrane protein. The SEMA4A gene encoding the protein localizes to chromosome 1q22. SEMA4A provides signals to specify territories inaccessible for growing neurons, inhibiting axonal extension.

REFERENCES

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2. Puschel, A.W., Adams, R.H. and Betz, H. 1995. Murine semaphorin D/collapsin is a member of a diverse gene family and creates domains inhibitory for axonal extension. *Neuron* 14: 941-948.
3. Dodd, J. and Schuchardt, A. 1995. Axon guidance: a compelling case for repelling growth cones. *Cell* 81: 471-474.
4. Matthes, D.J., Sink, H., Kolodkin, A.L. and Goodman, C.S. 1995. Semaphorin II can function as a selective inhibitor of specific synaptic arborizations. *Cell* 81: 631-639.
5. Messersmith, E.K., Leonardo, E.D., Shatz, C.J., Tessier-Lavigne, M., Goodman, C.S. and Kolodkin, A.L. 1995. Semaphorin III can function as a selective chemorepellent to pattern sensory projections in the spinal cord. *Neuron* 14: 949-959.
6. Wright, D.E., White, F.A., Gerfen, R.W., Silos-Santiago, I. and Snider, W.D. 1995. The guidance molecule semaphorin III is expressed in regions of spinal cord and periphery avoided by growing sensory axons. *J. Comp. Neurol.* 361: 321-333.
7. SWISS-PROT/TrEMBL (Q9H3S1). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

CHROMOSOMAL LOCATION

Genetic locus: *Sema4a* (mouse) mapping to 3 F1.

PRODUCT

SEMA4A (m): 293T Lysate represents a lysate of mouse SEMA4A transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

SEMA4A (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive SEMA4A antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RESEARCH USE

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

PROTOCOLS

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