



SEMA3C (h): 293T Lysate: sc-173109

BACKGROUND

SEMA3C (also designated semaphorin 3C, semaphorin E, SEMAE, SemE, sema domain, immunoglobulin domain (Ig) and short basic domain, secreted) is an ubiquitous protein that mediates axonal guidance, repulsive gradients, induction of growth cone collapse and cell survival/death. Secreted SEMA3C favors survival and neuritogenesis of cultured cerebellar granule neurons (CGNs). SEMA3C from macrophages and fibroblasts that selectively directs against sympathetic nerve fibers may be one element responsible for reduced sympathetic innervation in rheumatoid arthritis tissue. SEMA3C mutant mice die within hours after birth from congenital cardiovascular defects consisting of interruption of the aortic arch and improper septation of the cardiac outflow tract. SEMA3C is expressed in the cardiac outflow tract as neural crest cells and promotes crest cell migration into the proximal cardiac outflow tract. Semaphorins constitute a family of molecules sharing a common extracellular domain (semaphorin domain). The family includes several types of secreted and membrane-associated molecules that are grouped into eight subclasses (subclasses 1-7 and viral semaphorins).

REFERENCES

1. Kolodkin, A.L., et al. 1993. The semaphorin genes encode a family of transmembrane and secreted growth cone guidance molecules. *Cell* 75: 1389-1399.
2. Puschel, A.W., et al. 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., et al. 1995. Axon guidance: a compelling case for repelling growth cones. *Cell* 81: 471-474.
4. Matthes, D.J., et al. 1995. Semaphorin II can function as a selective inhibitor of specific synaptic arborizations. *Cell* 81: 631-639.
5. Messersmith, E.K., et al. 1995. Semaphorin III can function as a selective chemorepellent to pattern sensory projections in the spinal cord. *Neuron* 14: 949-959.
6. Feiner, L., et al. 2001. Targeted disruption of semaphorin 3C leads to persistent truncus arteriosus and aortic arch interruption. *Development* 128: 3061-3070.
7. Moreno-Flores, M.T., et al. 2003. Semaphorin 3C preserves survival and induces neuritogenesis of cerebellar granule neurons in culture. *J. Neurochem.* 87: 879-890.
8. Quinn, C.C., et al. 2003. TUC-4b, a novel TUC family variant, regulates neurite outgrowth and associates with vesicles in the growth cone. *J. Neurosci.* 23: 2815-2823.

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.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: SEMA3C (human) mapping to 7q21.11.

PRODUCT

SEMA3C (h): 293T Lysate represents a lysate of human SEMA3C transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

SEMA3C (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive SEMA3C 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.