SANTA CRUZ BIOTECHNOLOGY, INC.

SEMA3F (D-16): sc-68795

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. Secreted and cell-bound semaphorins chemically attract and repel the growth of neural axons, guiding the development of intricate networks of neural tissue. SEMA3F, also known as semaphorin IV, is a secreted protein belonging to the semaphorin family. SEMA3F is believed to play a role in cell motility and cell adhesion. Expressed abundantly in many tissues, SEMA3F is present at high levels in kidney, fetal brain, lung and mammary gland.

REFERENCES

1. Lantuejoul, S., et al. 2003. Expression of VEGF, semaphorin SEMA3F, and their common receptors neuropilins NP1 and NP2 in preinvasive bronchial lesions, lung tumours, and cell lines. J. Pathol. 200: 336-347.
2. Nasarre, P., et al. 2003. Semaphorin SEMA3F and VEGF have opposing effects on cell attachment and spreading. Neoplasia 5: 83-92.
3. Vilbig, R., et al. 2004. Distinct roles for Sema3A, Sema3F, and an unidentified trophic factor in controlling the advance of geniculate axons to gustatory lingual epithelium. J. Neurocytol. 33: 591-606.
4. Kusy, S., et al. 2005. Promoter characterization of Semaphorin SEMA3F, a tumor suppressor gene. Biochim. Biophys. Acta 1730: 66-76.
5. Yamada, R.X., et al. 2006. Soluble guanylyl cyclase inhibitor prevents Sema3F-induced collapse of axonal and dendritic growth cones of dentate granule cells. Biol. Pharm. Bull. 29: 796-798.
6. Favier, B., et al. 2006. Neuropilin-2 interacts with VEGFR-2 and VEGFR-3 and promotes human endothelial cell survival and migration. Blood 108: 1243-1250.
7. Jin, Z., et al. 2006. Sema3D, Sema3F, and Sema5A are expressed in overlapping and distinct patterns in chick embryonic heart. Dev. Dyn. 235: 163-169.
8. Gammill, L.S., et al. 2006. Neuropilin 2/semaphorin 3F signaling is essential for cranial neural crest migration and trigeminal ganglion condensation. J. Neurobiol. 67: 47-56.
9. Shimizu, A., et al. 2008. ABL2/ARG tyrosine kinase mediates SEMA3F-induced RhoA inactivation and cytoskeleton collapse in human glioma cells. J. Biol. Chem. 283: 27230-27238.

CHROMOSOMAL LOCATION

Genetic locus: SEMA3F (human) mapping to 3p21.31; Sema3f (mouse) mapping to 9 F2.

SOURCE

SEMA3F (D-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SEMA3F of human origin.

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-68795 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SEMA3F (D-16) is recommended for detection of SEMA3F of mouse, rat 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).

SEMA3F (D-16) is also recommended for detection of SEMA3F in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for SEMA3F siRNA (h): sc-62994, SEMA3F siRNA (m): sc-62995, SEMA3F shRNA Plasmid (h): sc-62994-SH, SEMA3F shRNA Plasmid (m): sc-62995-SH, SEMA3F shRNA (h) Lentiviral Particles: sc-62994-V and SEMA3F shRNA (m) Lentiviral Particles: sc-62995-V.

Molecular Weight of SEMA3F: 88 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.

SELECT PRODUCT CITATIONS

1. Coma, S., et al. 2010. Id2 promotes tumor cell migration and invasion through transcriptional repression of semaphorin 3F. Cancer Res. 70: 3823-3832.

RESEARCH USE

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

STORAGE

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