

SEMA4F (N-20): sc-67946

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. SEMA4F (semaphorin-4F), also known as SEMAM, SEMAW or PRO2353, is a 770 amino acid member of the semaphorin family. Localized to the membrane, SEMA4F is a single-pass type I protein that is involved in growth cone collapse of retinal ganglion-cell axons. SEMA4F is highly expressed in postnatal brain and lung and contains one immunoglobulin-like (Ig-like) domain, one PSI domain and one semaphorin domain. Two isoforms exist due to alternative splicing events.

REFERENCES

- Encinas, J.A., et al. 1999. Cloning, expression, and genetic mapping of Sema W, a member of the semaphorin family. *Proc. Natl. Acad. Sci. USA* 96: 2491-2496.
- Schultze, W., et al. 2001. Semaphorin4F interacts with the synapse-associated protein SAP90/PSD-95. *J. Neurochem.* 78: 482-489.
- Francks, C., et al. 2002. Fine mapping of the chromosome 2p12-16 dyslexia susceptibility locus: quantitative association analysis and positional candidate genes SEMA4F and OTX1. *Psychiatr. Genet.* 12: 35-41.
- Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603706. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Lindholm, T., et al. 2004. Semaphorin and neuropilin expression in motoneurons after intraspinal motoneuron axotomy. *Neuroreport* 15: 649-654.

CHROMOSOMAL LOCATION

Genetic locus: SEMA4F (human) mapping to 2p13.1; Sema4f (mouse) mapping to 6 C3.

SOURCE

SEMA4F (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of SEMA4F 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-67946 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

SEMA4F (N-20) is recommended for detection of SEMA4F 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).

SEMA4F (N-20) is also recommended for detection of SEMA4F in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SEMA4F siRNA (h): sc-62996, SEMA4F siRNA (m): sc-62997, SEMA4F shRNA Plasmid (h): sc-62996-SH, SEMA4F shRNA Plasmid (m): sc-62997-SH, SEMA4F shRNA (h) Lentiviral Particles: sc-62996-V and SEMA4F shRNA (m) Lentiviral Particles: sc-62997-V.

Molecular Weight of SEMA4F: 84 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.

RESEARCH USE

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

PROTOCOLS

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