

SEMA4G (C-18): sc-67949

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. SEMA4G (semaphorin-4G) is an 838 amino acid single-pass type I membrane protein that is thought to play a role in axon guidance. Existing as three alternatively spliced isoforms, SEMA4G contains one Ig-like C2-type (immunoglobulin-like) domain, a PSI domain and a single SEMA domain.

REFERENCES

- Li, H., et al. 1999. Characterization and expression of sema4g, a novel member of the semaphorin gene family. *Mech. Dev.* 87: 169-173.
- Holtmaat, A.J., et al. 2002. Semaphorins: contributors to structural stability of hippocampal networks? *Prog. Brain Res.* 138: 17-38.
- Dickson, B.J. 2002. Molecular mechanisms of axon guidance. *Science* 298: 1959-1964.
- Pasterkamp, R.J., et al. 2003. Semaphorin junction: making tracks toward neural connectivity. *Curr. Opin. Neurobiol.* 13: 79-89.
- Burkhardt, C., et al. 2005. Semaphorin 4B interacts with the post-synaptic density protein PSD-95/SAP90 and is recruited to synapses through a C-terminal PDZ-binding motif. *FEBS Lett.* 579: 3821-3828.

CHROMOSOMAL LOCATION

Genetic locus: SEMA4G (human) mapping to 10q24.31; Sema4g (mouse) mapping to 19 C3.

SOURCE

SEMA4G (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of SEMA4G 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-67949 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.

PROTOCOLS

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

APPLICATIONS

SEMA4G (C-18) is recommended for detection of SEMA4G of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SEMA4G (C-18) is also recommended for detection of SEMA4G in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SEMA4G siRNA (h): sc-62998, SEMA4G siRNA (m): sc-62999, SEMA4G shRNA Plasmid (h): sc-62998-SH, SEMA4G shRNA Plasmid (m): sc-62999-SH, SEMA4G shRNA (h) Lentiviral Particles: sc-62998-V and SEMA4G shRNA (m) Lentiviral Particles: sc-62999-V.

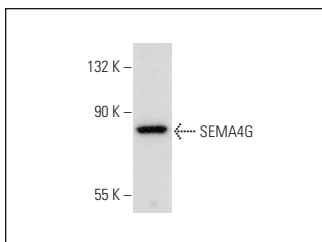
Molecular Weight of SEMA4G: 92 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

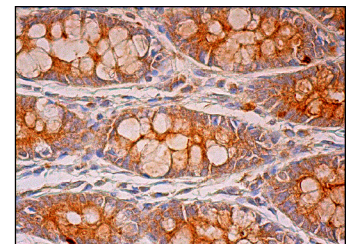
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



SEMA4G (C-18): sc-67949. Western blot analysis of SEMA4G expression in HeLa whole cell lysate.



SEMA4G (C-18): sc-67949. Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing cytoplasmic and membrane staining of glandular cells.

RESEARCH USE

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