

SEMA4A (H-60): sc-67073

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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- 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.
- SWISS-PROT/TrEMBL (Q9H3S1). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

CHROMOSOMAL LOCATION

Genetic locus: SEMA4A (human) mapping to 1q22; Sema4a (mouse) mapping to 3 F1.

SOURCE

SEMA4A (H-60) is a rabbit polyclonal antibody raised against amino acids 331-390 mapping within an N-terminal extracellular domain of SEMA4A 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.

APPLICATIONS

SEMA4A (H-60) is recommended for detection of SEMA4A 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SEMA4A (H-60) is also recommended for detection of SEMA4A in additional species, including equine, canine and porcine.

Suitable for use as control antibody for SEMA4A siRNA (h): sc-44383, SEMA4A siRNA (m): sc-44384, SEMA4A shRNA Plasmid (h): sc-44383-SH, SEMA4A shRNA Plasmid (m): sc-44384-SH, SEMA4A shRNA (h) Lentiviral Particles: sc-44383-V and SEMA4A shRNA (m) Lentiviral Particles: sc-44384-V.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

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.



Try **SEMA (A-12): sc-74554**, our highly recommended monoclonal alternative to SEMA4A (H-60). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **SEMA (A-12): sc-74554**.