

SEMA6D (D-20): sc-67965

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. SEMA6D (semaphorin-6D) is a 1,073 amino acid member of the Semaphorin family. Localized to the cell membrane or the cytoplasm (depending on the isoform), SEMA6D is involved in remodeling and maintenance of neuronal connections and functions in growth cone collapsing activity. SEMA6D contains one PSI domain and one semaphorin domain and is thought to be a stop signal for dorsal root ganglion neurons once they reach their target areas. Seven isoforms exist due to alternative splicing events.

REFERENCES

1. Qu, X., et al. 2002. Identification, characterization, and functional study of the two novel human members of the Semaphorin gene family. *J. Biol. Chem.* 277: 35574-35585.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609295. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Comoglio, P.M., et al. 2004. Invasive growth: a two-way street for Semaphorin signalling. *Nat. Cell Biol.* 6: 1155-1157.
4. Toyofuku, T., et al. 2004. Guidance of myocardial patterning in cardiac development by SEMA6D reverse signalling. *Nat. Cell Biol.* 6: 1204-1211.
5. Assou, S., et al. 2006. The human cumulus—oocyte complex gene-expression profile. *Hum. Reprod.* 21: 1705-1719.

CHROMOSOMAL LOCATION

Genetic locus: SEMA6D (human) mapping to 15q21.1; *Sema6d* (mouse) mapping to 2 F1.

SOURCE

SEMA6D (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of SEMA6D 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-67965 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

SEMA6D (D-20) is recommended for detection of SEMA6D 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).

SEMA6D (D-20) is also recommended for detection of semaphorin-6D in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SEMA6D siRNA (h): sc-63008, SEMA6D siRNA (m): sc-63009, SEMA6D shRNA Plasmid (h): sc-63008-SH, SEMA6D shRNA Plasmid (m): sc-63009-SH, SEMA6D shRNA (h) Lentiviral Particles: sc-63008-V and SEMA6D shRNA (m) Lentiviral Particles: sc-63009-V.

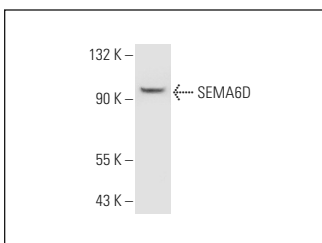
Molecular Weight of SEMA6D: 120 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

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.

DATA



SEMA6D (D-20): sc-67965. Western blot analysis of SEMA6D expression in Jurkat whole cell lysate.

RESEARCH USE

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



Try **SEMA (A-12): sc-74554** or **SEMA6D (A-8): sc-393258**, our highly recommended monoclonal alternatives to SEMA6D (D-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **SEMA (A-12): sc-74554**.