SANTA CRUZ BIOTECHNOLOGY, INC.

SEMA6D (A-8): sc-393258

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.

CHROMOSOMAL LOCATION

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

SOURCE

SEMA6D (A-8) is a mouse monoclonal antibody raised against amino acids 369-420 mapping within an internal region of SEMA6D of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SEMA6D (A-8) is available conjugated to agarose (sc-393258 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393258 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393258 PE), fluorescein (sc-393258 FITC), Alexa Fluor® 488 (sc-393258 AF488), Alexa Fluor® 546 (sc-393258 AF546), Alexa Fluor® 594 (sc-393258 AF594) or Alexa Fluor® 647 (sc-393258 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393258 AF680) or Alexa Fluor® 790 (sc-393258 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

SEMA6D (A-8) is recommended for detection of SEMA6D of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

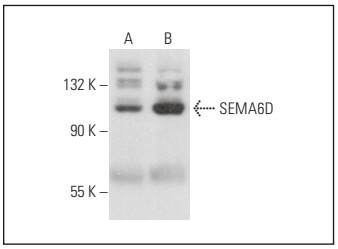
Suitable for use as control antibody for SEMA6D siRNA (h): sc-63008, SEMA6D siRNA (m): sc-63009, SEMA6D shRNA Plasmid (h): sc-63008-SH, SEMA6D shRNA Plasmid (m): sc-63009-SH, SEMA6D shRNA (h) Lentiviral Particles: sc-63008-V and SEMA6D shRNA (m) Lentiviral Particles: sc-63009-V.

Molecular Weight of SEMA6D: 120 kDa.

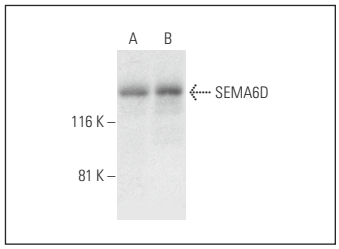
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



SEMA6D (A-8): sc-393258. Western blot analysis of SEMA6D expression in human brain (**A**) and human cerebellum (**B**) tissue extracts.



SEMA6D (A-8): sc-393258. Western blot analysis of SEMA6D expression in HeLa (**A**) and Jurkat (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Sun, Q., et al. 2019. SEMA6D regulates perinatal cardiomyocyte proliferation and maturation in mice. Dev. Biol. 452: 1-7.
2. Sun, T., et al. 2022. Semaphorin 6D regulate corralling, hematoma compaction and white matter injury in mice after intracerebral hemorrhage. J. Stroke Cerebrovasc. Dis. 31: 106803.
3. Thowfeequ, S., et al. 2024. An integrated approach identifies the molecular underpinnings of murine anterior visceral endoderm migration. Dev. Cell 59: 2347-2363.e9.

RESEARCH USE

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