

# SEMA5B (H-50): sc-68415

## 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. SEMA5B (semaphorin 5B), also known as SEMAG, is a 1,151 amino acid member of the semaphorin family. Localized to the membrane, SEMA5B is a single-pass type III protein that functions to convey positive axonal guidance cues and can induce calpain-mediated cleavage of calcineurin. Three isoforms exist due to alternative splicing events.

## REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 609298. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Liverman, C.S., Kaftan, H.A., Cui, L., Hersperger, S.G., Taboada, E., Klein, R.M. and Berman, N.E. 2006. Altered expression of pro-inflammatory and developmental genes in the fetal brain in a mouse model of maternal infection. *Neurosci. Lett.* 399: 220-225.
3. Hirota, E., Yan, L., Tsunoda, T., Ashida, S., Fujime, M., Shuin, T., Miki, T., Nakamura, Y. and Katagiri, T. 2006. Genome-wide gene expression profiles of clear cell renal cell carcinoma: identification of molecular targets for treatment of renal cell carcinoma. *Int. J. Oncol.* 29: 799-827.
4. To, K.C., Church, J. and O'Connor, T.P. 2007. Combined activation of calpain and calcineurin during ligand-induced growth cone collapse. *Mol. Cell. Neurosci.* 36: 425-434.
5. Sun, Q., Nawabi-Ghasimi, F. and Basile, J.R. 2008. Semaphorins in vascular development and head and neck squamous cell carcinoma-induced angiogenesis. *Oral Oncol.* 44: 523-531.

## CHROMOSOMAL LOCATION

Genetic locus: SEMA5B (human) mapping to 3q21.1; Sema5b (mouse) mapping to 16 B3.

## SOURCE

SEMA5B (H-50) is a rabbit polyclonal antibody raised against amino acids 416-465 mapping within an extracellular domain of SEMA5B 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.

## STORAGE

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

## APPLICATIONS

SEMA5B (H-50) is recommended for detection of SEMA5B of mouse 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).

SEMA5B (H-50) is also recommended for detection of SEMA5B in additional species, including equine and bovine.

Suitable for use as control antibody for SEMA5B siRNA (h): sc-63002, SEMA5B shRNA Plasmid (h): sc-63002-SH, SEMA5B shRNA (h) Lentiviral Particles: sc-63002-V.

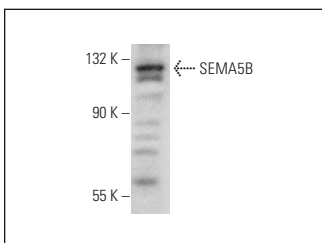
Molecular Weight of SEMA5B: 126 kDa.

Positive Controls: TK-1 whole cell lysate: sc-364798.

## 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.

## DATA



SEMA5B (H-50): sc-68415. Western blot analysis of SEMA5B expression in TK-1 whole cell lysate.

## RESEARCH USE

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

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Try **SEMA (A-12): sc-74554**, our highly recommended monoclonal alternative to SEMA5B (H-50). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **SEMA (A-12): sc-74554**.