

SEMA6B (XX09-t): sc-74276

BACKGROUND

Semaphorins are a family of cell surface and secreted proteins involved in neural development that are conserved from insects to humans. Members of this family 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. SEMA6B, also known as SEMA Z, is a single pass type I transmembrane protein highly expressed in adult brain and heart. It contains a proline-rich cytoplasmic domain with SH3 domain binding sites. SEMA6B functions as a repellent for sympathetic ganglion axons and suppresses neurite outgrowth. This activity is propagated through its receptor, plexin-A4. In addition, SEMA6B may play a role in tumor progression.

REFERENCES

1. Kikuchi, K., et al. 1998. Molecular cloning of a novel member of semaphorin family genes, semaphorin Z. *Brain Res. Mol. Brain Res.* 51: 229-237.
2. Eckhardt, F., et al. 1998. A novel transmembrane semaphorin can bind c-Src. *Mol. Cell. Neurosci.* 9: 409-419.
3. Correa, R.G., et al. 2001. Human semaphorin 6B [(HSA)SEMA6B], a novel human class 6 semaphorin gene: alternative splicing and all-*trans*-retinoic acid-dependent downregulation in glioblastoma cell lines. *Genomics* 73: 343-348.
4. 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.
5. Collet, P., et al. 2004. The human semaphorin 6B gene is downregulated by PPARs. *Genomics* 83: 1141-1150.

CHROMOSOMAL LOCATION

Genetic locus: SEMA6B (human) mapping to 19p13.3; Sema6b (mouse) mapping to 17 D.

SOURCE

SEMA6B (XX09-t) is a mouse monoclonal antibody raised against an extracellular domain of SEMA6B of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and protein stabilizer.

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.

APPLICATIONS

SEMA6B (XX09-t) is recommended for detection of SEMA6B of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000); non cross-reactive with SEMA3A, SEMA3B, SEMA6A, SEMA6C, SEMA6D or SEMA7A of human origin or SEMA3C, SEMA3E or SEMA3F of mouse origin.

Suitable for use as control antibody for SEMA6B siRNA (h): sc-63006, SEMA6B siRNA (m): sc-63007, SEMA6B shRNA Plasmid (h): sc-63006-SH, SEMA6B shRNA Plasmid (m): sc-63007-SH, SEMA6B shRNA (h) Lentiviral Particles: sc-63006-V and SEMA6B shRNA (m) Lentiviral Particles: sc-63007-V.

Molecular Weight of SEMA6B: 110 kDa.

Molecular Weight of SEMA6Ba isoform: 73 kDa.

PROTOCOLS

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