

SEMA6C (K-18): sc-83040

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. SEMA6C, also known as SEMA Y, is a transmembrane protein expressed in fetal brain and adult skeletal muscle. Three isoforms of this semaphorin exist due to alternative splicing: SEMA6C 1, SEMA6C 2 and SEMA6C 3. The extracellular domain of SEMA6C induces growth cone collapse of dorsal root ganglion and plays a role in generation or stability of entorhino-hippocampal synapses.

REFERENCES

1. Kikuchi, K., et al. 1999. Cloning and characterization of a novel class VI semaphorin, semaphorin Y. *Mol. Cell. Neurosci.* 13: 9-23.
2. 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.
3. Cohen, R.I., et al. 2003. A role for semaphorins and neuropilins in oligodendrocyte guidance. *J. Neurochem.* 85: 1262-1278.
4. Bahi, A., et al. 2005. Cocaine-induced expression changes of axon guidance molecules in the adult rat brain. *Mol. Cell. Neurosci.* 28: 275-291.
5. Blais, A., et al. 2005. An initial blueprint for myogenic differentiation. *Genes Dev.* 19: 553-569.
6. Burgaya, F., et al. 2006. Semaphorin 6C leads to GSK-3-dependent growth cone collapse and redistributes after entorhino-hippocampal axotomy. *Mol. Cell. Neurosci.* 33: 321-334.

CHROMOSOMAL LOCATION

Genetic locus: SEMA6C (human) mapping to 1q21.3; Sema6c (mouse) mapping to 3 F2.1.

SOURCE

SEMA6C (K-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of SEMA6C 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-83040 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

SEMA6C (K-18) is recommended for detection of SEMA6C 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); non cross-reactive with other SEMA family members.

Suitable for use as control antibody for SEMA6C siRNA (h): sc-76472, SEMA6C siRNA (m): sc-76473, SEMA6C shRNA Plasmid (h): sc-76472-SH, SEMA6C shRNA Plasmid (m): sc-76473-SH, SEMA6C shRNA (h) Lentiviral Particles: sc-76472-V and SEMA6C shRNA (m) Lentiviral Particles: sc-76473-V.

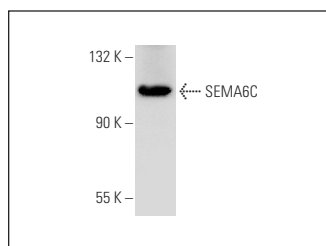
Molecular Weight of SEMA6C: 140 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

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



SEMA6C (K-18): sc-83040. Western blot analysis of SEMA6C expression in NIH/3T3 whole cell lysate.

RESEARCH USE

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



Try **SEMA (A-12): sc-74554** or **SEMA6C (Ex-14): sc-74277**, our highly recommended monoclonal alternatives to SEMA6C (K-18). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **SEMA (A-12): sc-74554**.