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SEMA4C siRNA (m): sc-153334

BACKGROUND

Semaphorins are a family of cell surface and secreted proteins that are conserved from insects to humans. Members of this family are defined by a conserved extracellular sema 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. SEMA4C (semaphorin-4C), also known as SEMAF, is an 833 amino acid single-pass type I membrane protein that contains one sema domain, one PSI domain and one Ig-like C2-type domain. Expressed in a variety of tissues, including lung, kidney and brain, SEMA4C interacts with GIPC and NCDN and is thought to play a role in the formation of neural networks during development.

REFERENCES

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6. Inagaki, S., Ohoka, Y., Sugimoto, H., Fujioka, S., Amazaki, M., Kurinami, H., Miyazaki, N., Tohyama, M. and Furuyama, T. 2001. SEMA4C, a transmembrane semaphorin, interacts with a post-synaptic density protein, PSD-95. *J. Biol. Chem.* 276: 9174-9181.

CHROMOSOMAL LOCATION

Genetic locus: *Sema4c* (mouse) mapping to 1 B.

PRODUCT

SEMA4C siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SEMA4C shRNA Plasmid (m): sc-153334-SH and SEMA4C shRNA (m) Lentiviral Particles: sc-153334-V as alternate gene silencing products.

For independent verification of SEMA4C (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-153334A, sc-153334B and sc-153334C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

SEMA4C siRNA (m) is recommended for the inhibition of SEMA4C expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 66 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

SEMA4C (37): sc-136445 is recommended as a control antibody for monitoring of SEMA4C gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SEMA4C gene expression knockdown using RT-PCR Primer: SEMA4C (m)-PR: sc-153334-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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

PROTOCOLS

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