

SEMA3F siRNA (m): sc-62995

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. SEMA3F, also known as semaphorin IV, is a secreted protein belonging to the semaphorin family. SEMA3F is believed to play a role in cell motility and cell adhesion. Expressed abundantly in many tissues, SEMA3F is present at high levels in kidney, fetal brain, lung and mammary gland.

REFERENCES

1. Lantuéjoul, S., et al. 2003. Expression of VEGF, semaphorin SEMA3F, and their common receptors neuropilins NP1 and NP2 in preinvasive bronchial lesions, lung tumours, and cell lines. *J. Pathol.* 200: 336-347.
2. Nasarre, P., et al. 2003. Semaphorin SEMA3F and VEGF have opposing effects on cell attachment and spreading. *Neoplasia* 5: 83-92.
3. Vilbig, R., et al. 2004. Distinct roles for SEMA3A, SEMA3F, and an unidentified trophic factor in controlling the advance of geniculate axons to gustatory lingual epithelium. *J. Neurocytol.* 33: 591-606.
4. Kusy, S., et al. 2005. Promoter characterization of Semaphorin SEMA3F, a tumor suppressor gene. *Biochim. Biophys. Acta* 1730: 66-76.
5. Yamada, R.X., et al. 2006. Soluble guanylyl cyclase inhibitor prevents Semaphorin-induced collapse of axonal and dendritic growth cones of dentate granule cells. *Biol. Pharm. Bull.* 29: 796-798.
6. Favier, B., et al. 2006. Neuropilin-2 interacts with VEGFR-2 and VEGFR-3 and promotes human endothelial cell survival and migration. *Blood* 108: 1243-1250.

CHROMOSOMAL LOCATION

Genetic locus: *Sema3f* (mouse) mapping to 9 F1.

PRODUCT

SEMA3F 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 SEMA3F shRNA Plasmid (m): sc-62995-SH and SEMA3F shRNA (m) Lentiviral Particles: sc-62995-V as alternate gene silencing products.

For independent verification of SEMA3F (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-62995A, sc-62995B and sc-62995C.

PROTOCOLS

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

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

SEMA3F siRNA (m) is recommended for the inhibition of SEMA3F 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SEMA3F gene expression knockdown using RT-PCR Primer: SEMA3F (m)-PR: sc-62995-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.