Active Recombinant Mouse Sema3f protein, Fc-tagged

Cat. No. SEMA3F-14864M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Mouse Sema3f(Ala19-Pro775 (Arg583Ala and Arg586Ala)) fused with Fc region of Human IgG1 at C-terminal was expressed in NS0.
Species	Mouse
Source	Mammalian Cells
ProteinLength	19-775 a.a.
Description	Semaphorin 3F (Sema 3F; previously Sema IV) is one of six Class 3 (secreted) semaphorins which in the mouse share 40 - 50% amino acid (aa) identity. Class 3 semaphorins are potent chemorepellents that function in axon guidance and/or vascular tip cell guidance during development. Sema 3F is expressed in the developing nervous system, especially in the dorsal spinal cord. In adults, Sema 3F is expressed in the lung and most other tissues. Crystal structures of semaphorins reveal that the 500 aa N-terminal Sema domain forms a seven-blade beta -propeller similar to that found in integrin molecules. Fourteen conserved cysteine residues and one or more N-glycosylation sites are thought to be critical for forming the secondary structure. Isoform A is missing aa 153 - 183 within the Sema domain relative to the long form (isoform B) but appears to have similar activity. C-terminal to the Sema domain, Sema 3F has a basic domain, a cysteine-knot plexin/semaphorin/integrin (PSI) domain, an Ig-like domain, a cysteine for dimerization and another basic domain at the C-terminus. Dimerization and cleavage at the C-terminus are required for repulsing activity of class 3 semaphorins. Mouse Sema 3F shares 96%, 99%, 92%,

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

	97% and 82% aa identity with human, rat, bovine, canine and chick Sema 3F, respectively. Type 3 semaphorins transduce signals through transmembrane plexins, either directly or by binding associated neuropilin receptors. Sema 3F signaling is transduced by type-A plexins, especially Plexin-A3, via interaction with neuropilin-2. Genetic disruption of either Sema 3F or neuropilin-2 alters motor axon trajectory to the ventral forelimb. Sema 3F is deleted or downregulated in many metastatic tumors. Restoration of Sema 3F decreases tumorigenicity, vascularization and adhesiveness, most likely through repulsive interactions, VEGF antagonism and downstream integrin regulation.
Predicted N Terminal	Ala19
Form	Lyophilized from a 0.2 μm filtered solution in Citric Acid and NaCl.
Bio-activity	Measured by its ability to inhibit proliferation of the A549 human lung carcinoma cells. The ED50 for this effect is typically 40-120 ng/mL.
Molecular Mass	Predicted Molecular Mass: 111.6 (monomer) kDa; SDS-PAGE: 110-122 kDa, reducing conditions.
Endotoxin	<1.0 EU per 1 μg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie® Blue stain at 5 μg per lane
Storage	Avoid repeated freeze-thaw cycles. 12 months from date of receipt, -20 to -70 centigrade as supplied. 1 month, 2 to 8 centigrade under sterile conditions after reconstitution. 3 months, -20 to -70 centigrade under sterile conditions after reconstitution.

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Reconstitution	Reconstitute at 100 µg/mL in sterile PBS.

GENE INFORMATION

Gene Name	Sema3f sema domain, immunoglobulin domain (Ig), short basic domain, secreted, (semaphorin) 3F [Mus musculus]
Official Symbol	Sema3f
Synonyms	SEMA3F; sema domain, immunoglobulin domain (Ig), short basic domain, secreted, (semaphorin) 3F; semaphorin-3F; semaphorin IV; Sema4; Semak;
Gene ID	20350
mRNA Refseq	NM_011349
Protein Refseq	NP_035479
UniProt ID	O88632

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