

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived mouse Semaphorin 4B protein		
	Mouse Semaphorin 4B (Leu31-Glu703) Accession # Q62179.2	IEGRMDP	Mouse IgG _{2a} (Glu98-Lys330)
	N-terminus		C-terminus
N-terminal Sequence Analysis	Leu31		
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	102 kDa		

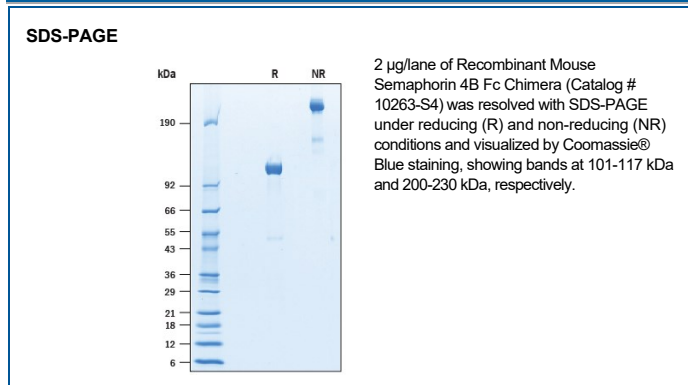
SPECIFICATIONS

SDS-PAGE	101-117 kDa, under reducing conditions
Activity	Measured by its ability to enhance neurite outgrowth of E16-E18 rat embryonic cortical neurons. Recombinant Mouse Semaphorin 4B Fc Chimera (Catalog # 10263-S4), immobilized at 2.5 µg/mL on a 96 well plate, is able to significantly enhance neurite outgrowth.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 1 mg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA



BACKGROUND

Semaphorin 4B (Sema4B) is a 95-100 kDa, class IV member of the Semaphorin family of proteins (1). Mature mouse Sema4B is a type I transmembrane glycoprotein that is 793 amino acids (aa) in length. It contains a 673 aa extracellular domain (ECD) that is characterized by one Sema domain, a PSI region, and an Ig-like C2-type domain. Within the ECD, mouse Sema4B shares 85% and 95% aa identity with the human and rat Sema4B, respectively (1, 2). Sema4B is expressed in hippocampal neurons, glial cells, and immune cells (3-4). It colocalizes and interacts with PSD-95 and participates in the formation or functioning of glutamatergic synapses (4).

Sema4B^{-/-} mice display reduced proliferation of astrocytes after CNS injury (5). In the immune system, Sema4B is a negative regulator of basophil-mediated immune response and is implicated in the development of lung cancer (6, 7).

References:

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3. Schultze, W. *et al.* (2001) *J. Neurochem.* **78**:482.
4. Burkhardt, C. *et al.* (2005) *FEBS Lett.* **579**:3821.
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6. Nakagawa, Y. *et al.* (2011) *J. Immunol.* **186**:2881.
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