

## SEMA4B Protein, Mouse, Recombinant (His)

### General Information

Synonyms:	SEMA4B;SemC;Semaphorin-C;MGC131831;Semaphorin-4B;KIAA1745;SEMAC
Protein Construction:	Leu31-Glu703
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	Q62179
Molecular Weight:	75.7 kDa (predicted). Due to glycosylation, the protein migrates to 78-83 kDa based on Tris-Bis PAGE result.

### QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95% as determined by Tris-Bis PAGE; > 95% as determined by HPLC
Endotoxin:	< 1.0 EU/ $\mu$ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 $\mu$ m filter, containing PBS (pH 7.4). Typically, 8% trehalose is incorporated as a protective agent before lyophilization.

### Preparation and Storage

#### Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100  $\mu$ g/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

#### Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Semaphorin 4B (SEMA4B) inhibits the invasion of non-small cell lung cancer (NSCLC) through PI3K-dependent suppression of MMP9 activation. SEMA4B may induce FoxO1 nuclear retention through suppressing PI3K/Akt signaling pathway, which subsequently inhibited cell growth through the direct nuclear target of FoxO1, p21. A role of SEMA4B in suppressing NSCLC growth, besides its role in inhibiting cell metastasis, and highlights SEMA4B as a promising therapeutic target for NSCLC.

Reference

Jian H, et al. SEMA4B inhibits growth of non-small cell lung cancer in vitro and in vivo. Cell Signal. 2015 Jun;27(6): 1208-13. doi: 10.1016/j.cellsig.2015.02.027. Epub 2015 Mar 4. PMID: 25746385.

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