# Recombinant Human SEMA4A/Semaphorin B Protein (Fc Tag)

**Catalog Number:PKSH031008**

***Note:*** Centrifuge before opening to ensure complete recovery of vial contents.

## Description

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|---|---|
| **Synonyms** | CORD10;RP35;SEMAB;SEMB |
| **Species** | Human |
| **Expression Host** | HEK293 Cells |
| **Sequence** | Met 1-His 683 |
| **Accession** | NP_071762.2 |
| **Calculated Molecular Weight** | 99.0 kDa |
| **Observed molecular weight** | 110 kDa |
| **Tag** | C-hFc |
| **Bioactivity** | Measured by its ability to bind mouse SEMA4D in a functional ELISA. |

## Properties

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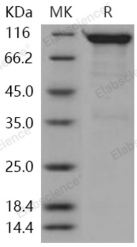
|---|---|
| **Purity** | > 90 % as determined by reducing SDS-PAGE. |
| **Endotoxin** | < 1.0 EU per μg of the protein as determined by the LAL method. |
| **Storage** | Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80℃. Reconstituted protein solution can be stored at 4-8℃ for 2-7 days. Aliquots of reconstituted samples are stable at < -20℃ for 3 months. |
| **Shipping** | This product is provided as lyophilized powder which is shipped with ice packs. |
| **Formulation** | Lyophilized from sterile PBS, pH 7.4<br>Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization.<br>Please refer to the specific buffer information in the printed manual. |
| **Reconstitution** | Please refer to the printed manual for detailed information. |

## Data




> 90 % as determined by reducing SDS-PAGE.

## Background

Semaphorin-4A, also known as Semaphorin-B, SEMA4A, Sema B and SEMAB, is a single-pass type I membrane protein which belongs to thesemaphorin family. It inhibits axonal extension by providing local signals to specify territories inaccessible for growing axons. Semaphorin-4A contains one Ig-like C2-type domain, one PSI domain and one Sema domain. Defects in SEMA4A are the cause of retinitis pigmentosa type 35 (RP35) which leads to degeneration of retinal photoreceptor cells. Patients typically have night vision blindness and loss of midperipheral visual field. As their condition progresses, they lose their far peripheral visual field and eventually central vision as well. Defects in SEMA4A are also the cause of cone-rod dystrophy type 10 (CORD10) which are inherited retinal dystrophies belonging to the group of

pigmentary retinopathies. CORDs are characterized by retinal pigment deposits visible on fundus examination, predominantly in the macular region, and initial loss of cone photoreceptors followed by rod degeneration. Semaphorins are secreted, transmembrane, and GPI-linked proteins, defined by cysteine-rich semaphorin protein domains, that have important roles in a variety of tissues. Semaphorins have been implicated in diverse developmental processes such as axon guidance during nervous system development and regulation of cell migration.



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