



Recombinant Protein Technical Manual

**Recombinant Human SEMA4A/Semaphorin B
Protein (His Tag)(Active)**
RPES0767

Product Data:

Product SKU: RPES0767

Size: 50µg

Species: Human

Expression host: HEK293 Cells

Uniprot: NP_071762.2

Protein Information:

Molecular Mass: 73.4 kDa

AP Molecular Mass: 75-80 kDa

Tag: C-His

Bio-activity: Measured by its ability to bind biotinylated mouse SEMA4D in a functional ELISA.

Purity: > 96 % as determined by reducing SDS-PAGE.

Endotoxin: < 1.0 EU per µg as determined by the LAL method.

Storage: Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C 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

Reconstitution: Please refer to the printed manual for detailed information.

Application: Functional ELISA

Synonyms: CORD10;RP35;SEMAB;SEMB

Immunogen Information:

Sequence: Met 1-His 683

Background:

Semaphorin-4A, also known as Semaphorin-B, SEMA4A, Sema B and SEMAB, is a single-pass type I membrane protein which belongs to the semaphorin family. It inhibits axonal extension by providing local signals to specify territories inaccessible for growing axons. Semaphorin-4A / SEMA4A contains one Ig-like C2-type (immunoglobulin-like) 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. Humans have 20 semaphorins, Drosophila has five, and two are known from DNA viruses. Semaphorins are found in nematodes and crustaceans but not in non-animals. They are grouped into eight classes on the basis of phylogenetic tree analyses and the presence of additional protein motifs. Semaphorins have been implicated in diverse developmental processes such as axon guidance during nervous system development and regulation of cell migration.