

---

**Recombinant Human Semaphorin 4A / SEMA4A / Semaphorin B Protein (Fc tag)****Cat.NO.: TP07339**

3th Edition

**Synonyms:**CORD10;RP35;SEMAB;SEMB

**Description:**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.

**Form:**PBS**Molecular Weight:**99 kDa**Sequences:**Met 1-His 683**Purity:**> 95% by HPLC**Concentration:****Endotoxin Level:**<1.0 EU per 1 ug of protein (determined by LAL method)**Storage:**Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.