



# Recombinant Protein Technical Manual

**Recombinant Mouse Semaphorin 3A/SEMA3A  
Protein (Fc Tag)**  
RPES0660

## Product Data:

**Product SKU:** RPES0660

**Size:** 20µg

**Species:** Mouse

**Expression host:** HEK293 Cells

**Uniprot:** O08665

## Protein Information:

**Molecular Mass:** 87.7 kDa

**AP Molecular Mass:** 100 kDa

**Tag:** N-Fc

**Bio-activity:**

**Purity:** > 80 % as determined by SDS-PAGE

**Endotoxin:** < 1.0 EU per µg of the protein 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:**

**Synonyms:** coll;Hsema-I;SEMA1;Semad;SemD

## Immunogen Information:

**Sequence:** Lys 26-Phe 546

## Background:

Semaphorins are a family of secreted and cell-bound signaling molecules defined by the presence of a common 500 aa Sema domain. They are best characterized in relation to axon guidance during development of the nervous system. The functions of Semaphorins 3A (SEMA3A) are mediated primarily through binding to the Neuropilin (Npn) and Plexin-A1 coreceptor complex. Neuropilins lack a signaling-competent cytoplasmic domain and ensure semaphorin binding, whereas the transmembrane receptor plexin mediates the intracellular response. As the first identified vertebrate semaphorin, SEMA3A functions either as a chemorepulsive agent inhibiting axonal outgrowth, or as a chemoattractive agent stimulating the growth of apical dendrites. In both cases, the protein is vital for normal neuronal pattern development. Its overexpression is associated with schizophrenia which is seen in various human tumor cell lines, and aberrant release is associated with the progression of Alzheimer's disease