

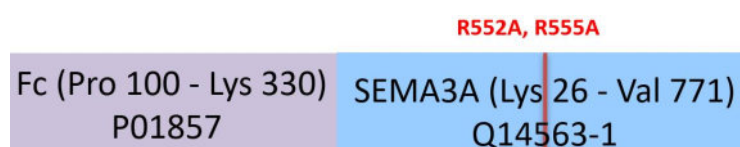
### Synonym

Semaphorin 3A,(semaphorin) 3A,coll-1,collapsin 1,Hsema-I,Hsema-III,MGC133243,sema domain,immunoglobulin domain (Ig),short basic domain,secreted,Sema III,SEMA1, Sema3A,SEMAD,SEMAIII,SEMAL,Semaphorin 3A,semaphorin D,Semaphorin III,semaphorin L,semaphorin-3A,SemD,SEMA3A

### Source

Human Semaphorin 3A, Fc Tag(SEA-H5257) is expressed from human 293 cells (HEK293). It contains AA Lys 26 - Val 771 (Accession # [Q14563-1](#) (R552A, R555A)).

### Molecular Characterization



This protein carries a human IgG1 Fc tag at the N-terminus. The protein has a calculated MW of 112.4 kDa. Besides Furin cleavage site (Arg 555 - Gln 556), the protein also has an unknown protease cleavage site at Leu 709 - Ile 710. The protein migrates as 100 kDa and 116 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

### Endotoxin

Less than 1.0 EU per µg by the LAL method.

### Purity

>95% as determined by SDS-PAGE.

### Formulation

Lyophilized from 0.22 µm filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

### Reconstitution

Please see Certificate of Analysis for specific instructions.

*For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.*

### Storage

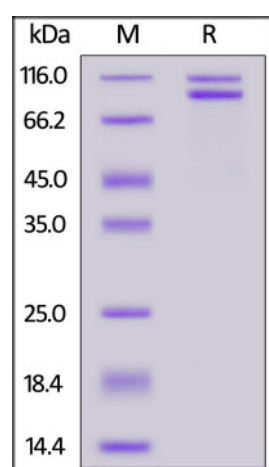
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

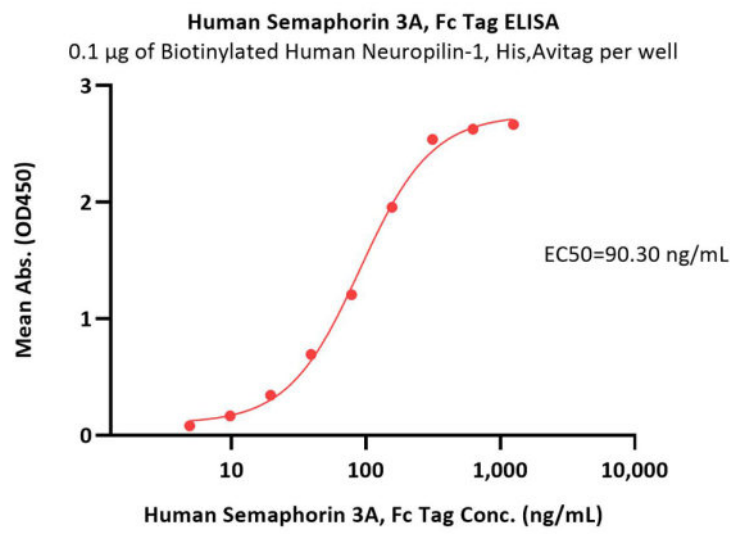
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

### SDS-PAGE



Human Semaphorin 3A, Fc Tag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

### Bioactivity-ELISA



Immobilized Biotinylated Human Neuropilin-1, His,Avitag (Cat. No. NR1-H82E3) at 1 µg/mL (100 µL/well) on streptavidin (Cat. No. STN-N5116) precoated (0.5 µg/well) plate can bind Human Semaphorin 3A, Fc Tag (Cat. No. SEA-H5257) with a linear range of 5-156 ng/mL (QC tested).

## Background

Semaphorin-3A (SEMA3A) is also known as Semaphorin III, which belongs to the semaphorin family. SEMA3A contains 1 Ig-like C2-type (immunoglobulin-like) domain, one PSI domain and one sema domain. Semaphorin-3A is a secreted protein, or chemorepulsor, secreted by surrounding tissues to guide migrating cells and axons in the developing nervous system of an organism which is critical for the precise formation of neurons and vasculature. SEMA3A can function as either 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. Increased expression of SEMA3A is associated with schizophrenia and is seen in a variety of human tumor cell lines. Also, aberrant release of this protein is associated with the progression of Alzheimer's disease.

## Clinical and Translational Updates

Please contact us via [TechSupport@acrobiosystems.com](mailto:TechSupport@acrobiosystems.com) if you have any question on this product.