

## SEMA3A Protein, Human, Recombinant (His)

### General Information

Protein Construction:	Asn21-Val771
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q14563
Molecular Weight:	87.7 kDa (Predicted); 60-70 kDa (Due to furin cleavage site)

### QC Testing

Biological Activity:	Immobilized Anti-SEMA3A Antibody at 5 µg/ml (100 µl/well) on the plate. Dose response curve for Human SEMA3A, His Tag with the EC50 of 1.30 µg/ml determined by ELISA.
Purity:	> 95% as determined by Bis-Tris PAGE; > 95% as determined by HPLC
Endotoxin:	< 1 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from 0.22 µm filtered solution in PBS, 200 mM L-arginine (pH 7.4). Normally 8% trehalose is added as protectant before lyophilization.

### Preparation and Storage

#### Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 µg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

#### Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

*Actual storage temperature shall be subject to the COA.*

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

The CRMP proteins were originally identified as mediators of Sema3A signaling and neuronal differentiation. Much has been learned about the mechanism by which CRMPs regulate cellular responses to Sema3A. The secreted protein Sema3A (collapsin-1) was the first identified vertebrate semaphorin. Sema3A acts primarily as a repulsive axon guidance cue, and can cause a dramatic collapse of the growth cone lamellipodium. Neuropilin-1 (NP1) and members of the class A plexins (PlexA) form a Sema3A receptor complex, with NP1 serving as a high-affinity ligand binding partner, and PlexA transducing the signal into the cell via its large intracellular domain.

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