

## Neuroserpin Protein, Mouse, Recombinant (His)

### General Information

Synonyms:	PI12;serpin peptidase inhibitor, clade I (neuroserpin), member 1;Serp11;Spi17;AI837402;PI-12;Ns
Protein Construction:	A DNA sequence encoding the mouse SERPIN1 (O35684) (Met 1-Leu 410) was expressed, with a C-terminal polyhistidine tag. Predicted N terminal: Thr 17
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	O35684
Molecular Weight:	46 kDa (predicted); 45-50 kDa (reducing condition, due to glycosylation)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

#### Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

#### 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

Neuroserpin, also known as Protease inhibitor 12 and SERPIN1, is a secreted protein that belongs to the serpin family. Neuroserpin is a serine protease inhibitor that inhibits plasminogen activators and plasmin but not thrombin. Serine protease inhibitors of the serpin superfamily are involved in many cellular processes. Neuroserpin was first identified as a protein secreted from the axons of dorsal root ganglion neurons. Neuroserpin

is predominantly expressed in the brain, and is expressed in the late stages of neurogenesis during the process of synapse formation. Overexpression of neuroserpin in an anterior pituitary corticotroph cell line results in the extension of neurite-like processes, suggesting that neuroserpin may play a role in cell communication, cell adhesion, and/or cell migration. Neuroserpin may be involved in the formation or reorganization of synaptic connections, as well as synaptic plasticity in the adult nervous system. Neuroserpin may also protect neurons from cell damage by tissue-type plasminogen activator. Defects of neuroserpin are the cause of familial encephalopathy with neuroserpin inclusion bodies (FEN1B).

### Reference

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Hill RM. et al., 2002, Ann N Y Acad Sci. 971: 406-15.  
Yepes M. et al., 2004, Thromb. Haemost. 91 (3): 457-64.  
Galliciotti G. et al., 2006, Front Biosci. 11: 33-45.

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