

# Human SerpinA3 / AACT Protein (His Tag)



Sino Biological  
Biological Solution Specialist

Catalog Number: 10307-H08H

## General Information

### Gene Name Synonym:

AACT; ACT; GIG24; GIG25; MGC88254; SERPINA3

### Protein Construction:

A DNA sequence encoding the human SERPINA3 (NP\_001076.2) (Met 1-Ala 423) was expressed, with a C-terminal polyhistidine tag.

**Source:** Human

**Expression Host:** HEK293 Cells

## QC Testing

**Purity:** > 97 % as determined by SDS-PAGE

### Bio Activity:

**Measured by its ability to inhibit trypsin cleavage of a fluorogenic peptide substrate, Mca-RPKPVE-Nval-WRK(Dnp)-NH<sub>2</sub> (Anaspec, Catalog# 27114). The IC<sub>50</sub> value is < 5 nM.**

### Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Asn 26

### Molecular Mass:

The recombinant human SERPINA3 consisting of 409 amino acids and has a calculated molecular mass of 46.5 kDa. As a result of different glycosylation, the apparent molecular mass of the recombinant protein is approximately 45 kDa and 55-70 kDa in SDS-PAGE under reducing conditions.

### Formulation:

Lyophilized from sterile 25mM HEPES, 0.15M NaCl, pH 7.8

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

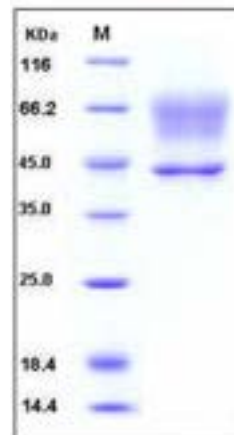
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

SerpinA3, also known as Alpha 1-antichymotrypsin (AACT), is a plasma alpha globulin glycoprotein, and is a member of serpin superfamily of the serine protease inhibitors consisting of at least 35 members. SerpinA3 has been demonstrated to inhibit the activity of certain serine proteases, such as cathepsin G found in neutrophils, and chymases present in mast cells, by inducing a major conformational rearrangement, and thus protects some tissues from damage caused by proteolytic enzymes. This enzyme is produced primarily in the liver, and is identified as an acute-phase inflammatory protein. SerpinA3 deficiency has been associated with liver disease, and mutations of this gene have been observed in patients with Parkinson disease and chronic obstructive pulmonary disease. In addition, ACT gene polymorphism has been implicated with Alzheimer's disease (AD), cerebral amyloid angiopathy (CAA), as well as stroke, since SerpinA3 is a major constituent of the plaques in AD and an inhibitor of amyloid beta peptide degradation.

## References

1. Nilsson, L.N. et al., 2001, J. Neurosci. 21: 1444-1451.
2. Ikari, Y. et al., 2001, J. Biol. Chem. 276: 11798-11803.
3. Vila, N. et al., 2000, Stroke. 31: 2103-2105

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