

Serpin A1 Protein, Human, Recombinant (aa 25-418, His)

General Information

Synonyms:	Alpha-1-Antiproteinase; α -1-Antiproteinase;SERPINA1;Serpin A1;AAT;Alpha-1 Protease Inhibitor;Alpha-1-Antitrypsin;PI; α -1-Antitrypsin; α -1 Protease Inhibitor
Protein Construction:	Glu25-Lys418
Species:	Human
Expression Host:	HEK293 Cells
Accession:	AAH11991.1
Molecular Weight:	50-65 KDa (reducing condition)
AA Sequence:	Glu25-Lys418

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	Greater than 95% as determined by reducing SDS-PAGE. (QC verified)
Endotoxin:	< 0.1 ng/ μ g (1 EU/ μ g) as determined by LAL test.
Formulation:	Lyophilized from a solution filtered through a 0.22 μ m filter, containing 20 mM Tris-HCl, 150 mM NaCl, 2 mM CaCl ₂ , pH 7.5.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 μ g/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:

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

Serpin A1 is a prototype member of the Serpin superfamily of the serine protease inhibitors. As one of the most abundant proteinase inhibitors in the circulation, it is synthesized in hepatocytes, and to a lesser extent, in macrophages as well as intestinal epithelial cell lines and secreted as the abundant proteinase inhibitor in the circulation whose targets include elastase, plasmin, thrombin, trypsin, chymotrypsin, and plasminogen activator.

A DRUG SCREENING EXPERT

Point mutations in the native SerpinA1 variants result in Serpin A1 deficiency, and consequently lead to several clinical complications such as pulmonary emphysema, juvenile hepatitis, cirrhosis, and hepatocellular carcinoma. For example, the Z variants (Glu342 to Lys) forms intracellular inclusion bodies, is not secreted, and leads to a severe SerpinA1 deficiency. Accordingly, Serpin A1 deficiency in circulation is associated with emphysema or liver disease.

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