

Human A2M / CPAMD5 / Alpha-2-macroglobulin Protein (His Tag)

Catalog Number: 10952-H08B



Sino Biological Inc.

Biological Solution Specialist

General Information

Gene Name Synonym:

A2mp

Protein Construction:

A DNA sequence encoding the human A2M (NP_000005.2) (Met 1-Ala 1474) was expressed, fused with a polyhistidine tag at the C-terminus.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 92 % as determined by SDS-PAGE

Bio-Activity

Measured by its ability to trap trypsin. The trapped trypsin is no longer able to interact with protein substrates or inhibitors, but still able to cleave small peptide substrates or inhibitors.
The IC50 value is

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: Ser 24

Molecular Mass:

The recombinant human A2M consists of 1461 amino acids and predicts a molecular mass of 164 kDa. The apparent molecular mass of rhA2M is approximately 160-170 kDa in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 20mM Tris, 500mM NaCl, pH 7.4

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

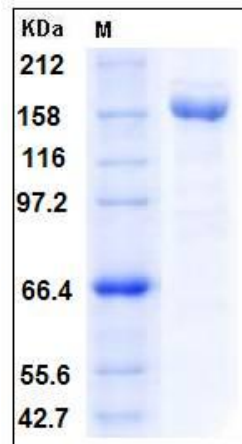
Usage Guide

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.

SDS-PAGE:



Reconstitution:

Detailed reconstitution instructions are sent along with the products.

Protein Description

Alpha-2-macroglobulin, also known as Alpha-2-M, C3 and PZP-like alpha-2-macroglobulin domain-containing protein 5, A2M and CPAMD5, is a secreted protein which belongs to the protease inhibitor I39 (alpha-2-macroglobulin) family. Alpha-2-macroglobulin / A2M is a large plasma protein found in the blood. It is produced by the liver, and is a major component of the alpha-2 band in protein electrophoresis. Alpha-2-macroglobulin / A2M is a high-molecular weight glycoprotein that possesses a wide range of regulatory functions. Alpha-2-macroglobulin / A2M is able to inhibit all four classes of proteinases by a unique 'trapping' mechanism. This protein has a peptide stretch, called the 'bait region' which contains specific cleavage sites for different proteinases. When a proteinase cleaves the bait region, a conformational change is induced in the protein which traps the proteinase. The entrapped enzyme remains active against low molecular weight substrates (activity against high molecular weight substrates is greatly reduced). Following cleavage in the bait region a thioester bond is hydrolyzed and mediates the covalent binding of the protein to the proteinase. Alpha-2-macroglobulin / A2M levels are increased in nephrotic syndrome, a condition wherein the kidneys start to leak out some of the smaller blood proteins.

References

1. de Boer JP, et al.,1993, Infect. Immun.61 (12): 5035-43.
2. Naveau,S. et al., Dig Dis Sci1994,39 (11):2426-32.
3. Coutinho,C.M. et al., 1997,Parasitol Res. 83 (2):144-50.
4. Zorina,V.N. et al.,2007, Biomed Khim. 53 (2):164-71.

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