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

Catalog No. PKSH031338

Note: Centrifuge before opening to ensure complete recovery of vial contents.

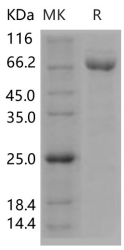
Description

Synonyms	A2MD;CPAMD5;FWP007;S863-7
Species	Human
Expression Host	Baculovirus-Insect Cells
Sequence	Met 1-Ala 1474
Accession	NP_000005.2
Calculated Molecular Weight	164 kDa
Observed molecular weight	160-170 kDa
Tag	C-His
Bioactivity	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 < 5 nM.

Properties

Purity	> 92 % as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 EU per μg of the protein as determined by the LAL method.
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80℃. Reconstituted protein solution can be stored at 4-8℃ for 2-7 days. Aliquots of reconstituted samples are stable at < -20℃ for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from sterile 20mM Tris, 500mM NaCl, pH 7.4 Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
Reconstitution	Please refer to the printed manual for detailed information.

Data



> 92 % as determined by reducing SDS-PAGE.

Background

alpha-2-macroglobulin, also known as α2-macroglobulin (α2M and A2M), is an abundant protein of the plasma of vertebrates and members of several invertebrate phyla and functions as a broad-spectrum protease-binding protein. alpha-2-macroglobulin is produced by the liver, and is a major component of the alpha-2 band in protein electrophoresis. alpha-2-macroglobulin is a large plasma glycoprotein that has long been known as an irreversible inhibitor of a variety of proteinases. More recently, it has been reported that numerous growth factors, cytokines and hormones bind to alpha 2M through diverse mechanisms. A2M is also produced in the brain where it binds multiple extracellular ligands and is internalized by neurons and astrocytes. In the brain of Alzheimer's disease (AD) patients, A2M has been localized to diffuse amyloid plaques. A2M also binds soluble beta-amyloid, of which it mediates degradation. Protease-conjugated alpha2-macroglobulin is selectively bound by cells contacting the body fluids and alpha2-macroglobulin and its protease cargo are then internalized and degraded in secondary lysosomes of those cells. In addition to this function as an agent for protease clearance, alpha2-macroglobulin binds a variety of other ligands, including several peptide growth factors and modulates the activity of a lectin-dependent cytolytic pathway in arthropods.

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