Recombinant Human Antithrombin-III/AT3 Protein (His Tag)

Catalog Number: PDMH100092

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

Description

Species	Human
Source	Mammalian-derived Human Antithrombin-III;AT3 protein Met1-Lys464, with an C-terminal His
Calculated MW	50.9 kDa
Observed MW	60 kDa
Accession	P01008
Bio-activity	Not validated for activity

Properties

Purity	> 95% as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 EU/mg 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°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with 5% Trehalose and 5% Mannitol.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.5 mg/mL. Concentration is measured by UV-Vis.

Background

SerpinC1, also known as antithrombin III (AT III), is a member of the serpin superfamily of serine protease inhibitors, and has been found to be a marker for disseminated intravascular coagulation (DIC) and to be of prognostic significance in septic patients. SerpinC1 synthesized in the liver is the principal plasma serpin of blood coagulation proteases and inhibits thrombin and other factors such as Xa by the formation of covalently linked complexes. Thus it is one of the most important coagulation inhibitors and the fundamental enzyme for the therapeutical action of hepari n. In common with SerpinA5 and D1, the inhibitory activity of SerpinC1 undergoes a dramatic increase in the presence of heparin and other glycosaminoglycans. ATIII mediates the promotion of prostaglandin release, an inhibitor of leucocyte activation and downregulator of many proinflammatory cytokines. Antithrombin III exerts anti-inflammatory properties in addition to its anti-coagulative mechanisms. In animal models of sepsis, ATIII affected cytokine plasma concentrations with a decrease of pro-inflammatory cytokines. The deficiency or functional abnormality of ATIII may result in an increased risk of thromboembolic disease, such as deep vein thrombosis and pulmonary embolism. In addition, it has been reported that SerpinC1 can alter or influence inflammatory processes via inhibition of NF-&kapp a,B activation or actin polymerization.

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