



Recombinant Protein Technical Manual

**Recombinant Human SerpinC1/AntithrombinIII/ATIII
Protein (His Tag)(Active)**
RPES1479

Product Data:

Product SKU: RPES1479

Size: 10µg

Species: Human

Expression host: HEK293 Cells

Uniprot: NP_000479.1

Protein Information:

Molecular Mass: 50.5 kDa

AP Molecular Mass: 55-60 kDa

Tag: C-His

Bio-activity: Measured by its ability to inhibit thrombin (Sigma, Catalog # T4648) cleavage of a fluorogenic peptide substrate Boc-VPR-AMC. The IC50 value is < 5 nM.

Purity: > 95 % as determined by reducing SDS-PAGE.

Endotoxin: < 1.0 EU per µg as determined by the LAL method.

Storage: 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 sterile PBS, pH 7.4

Reconstitution: Please refer to the printed manual for detailed information.

Application:

Synonyms: AT3;AT3D;ATIII;MGC22579;SerpinC1;THPH7

Immunogen Information:

Sequence: Met 1-Lys 464

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 heparin. 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- κ B activation or actin polymerization.