

# Recombinant Human Antithrombin-III/AT3 protein (His tag)



Catalog Number:PDMH100092

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

## Description

|                                    |                                       |
|------------------------------------|---------------------------------------|
| <b>Synonyms</b>                    | Antithrombin-III (ATIII) (Serpine C1) |
| <b>Species</b>                     | Human                                 |
| <b>Expression Host</b>             | HEK293 Cells                          |
| <b>Sequence</b>                    | Met 1-Lys 464                         |
| <b>Accession</b>                   | P01008                                |
| <b>Calculated Molecular Weight</b> | 50.9 kDa                              |
| <b>Observed molecular weight</b>   | 60 kDa                                |
| <b>Tag</b>                         | C-His                                 |

## Properties

|                       |                                                                                                                                                                                                                                       |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Purity</b>         | > 95 % as determined by reducing SDS-PAGE.                                                                                                                                                                                            |
| <b>Endotoxin</b>      | Please contact us for more information.                                                                                                                                                                                               |
| <b>Storage</b>        | 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. |
| <b>Shipping</b>       | This product is provided as lyophilized powder which is shipped with ice packs.                                                                                                                                                       |
| <b>Formulation</b>    | Lyophilized from sterile PBS, pH 7.4.<br>Normally 5 % - 8 % trehalose, mannitol and 0.01 % Tween80 are added as protectants before lyophilization.<br>Please refer to the specific buffer information in the printed manual.          |
| <b>Reconstitution</b> | Please refer to the printed manual for detailed information.                                                                                                                                                                          |

## Background

SerpineC1, 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. SerpineC1 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 therapeutic action of heparin. In common with SerpineA5 and D1, the inhibitory activity of SerpineC1 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 SerpineC1 can alter or influence inflammatory processes via inhibition of NF- $\kappa$ B activation or actin polymerization.

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