Human Antithrombin III
Product No. ADG433N

Description
Antithrombin III (ATIII) is a single chain glycoprotein with a molecular weight of 58,000. It is a member of the serpin (serine protease inhibitor) super family and is considered to be the most important inhibitor in the coagulation cascade \(^{(1,2)}\).

ATIII inhibits a wide spectrum of serine proteases including Thrombin, Factors IXa, Xa and Xla, Kallikrein, Plasmin, Urokinase, C1-esterase, and Trypsin. The mechanism of inhibition involves the formation of a stable 1:1 complex between the active site of the protease and ATIII.

ATIII is prepared from fresh frozen plasma by heparin-agarose affinity chromatography.

Properties
Antithrombin III contains three intra-chain disulfide bonds, a carbohydrate rich domain, an NH\(_2\)-terminal heparin binding domain, and a COOH-terminal serine protease binding domain.

Molecular weight: 58,000 Da
Extinction coefficient: 6.2

Specific activity
Specific activity is given in U/mg. Specific Activity is determined by Instrumentation Laboratories Liquid Antithrombin Kit #002030100, Assay Principle: Factor Xa is inhibited by ATIII in the presence of excess heparin. See vial label for lot-specific activity.

Warning
The product is of human blood/plasma origin. Although the starting material was tested and was found negative for HIV-1/2, HIV antigen(s), HbsAg, STS, anti-HCV, anti-HBcore and HTLV I & II, extrem caution should be used when handling this material as there is a margin of error an all tests, and testing does not always disclose pathogens or other harmful substances contained in human blood/plasma product.

Presentation
1 vial containing 1 mg of protein in a 50% vol/vol glycerol/water solution. See vial label for lot-specific concentration.

Storage and Stability
Store frozen at -20°C. Do not subject to freeze-thaw cycles! Spin briefly before opening.

References