Antithrombin-III (human)

Catalogue Number: 30 900 106       Package Size: 100 µg lyophilized

1. Enzyme characteristics

1.1 Molecular form: Antithromin-III inhibits all serine proteases of the blood coagulation system and fibrinolysis, including thrombin, plasmin, kallikrein, the protease factors IXa, Xa, XIIa and IIa (thrombin). It also inhibits trypsin and chymotrypsin. Antithromin-III does not inhibit cysteine proteases, aspartic proteases, and metalloproteases. Its activity is strongly enhanced by heparin. Antithromin-III forms an irreversible 1:1 complex with serine proteases. Once formed, the complex does not dissociate, even during electrophoreses in the presence of denaturing and reducing agents.

1.2 Purity: >95 %, on SDS-PAGE commassie blue stained gel, the purified protein shows a band at 65 kDa.

1.3 Specific activity: >80% active inhibitor as determined with bovine thrombin in the presence of heparin. One inhibitor unit Antithrombin-III inactivates 1 U of thrombin (25°C, pH8.1) in the presence of heparin. The rate of complex formation is accelerated by typically 0.2 units of heparin per unit Antithrombin-III.

1.4 Stability and storage: Antithrombin-III is stable if stored at -70°C or if lyophilized, it can be kept at -20°C for at least six months and at 4°C for 1 week without significant loss of activity. Repeated freezing and thawing should be avoided.

2. References