

## Antithrombin III from bovine plasma

### Description:

Antithrombin III (ATIII) is a small protein molecule that inactivates several enzymes of the coagulation system. It is a glycoprotein produced by the liver and consists of 432 amino acids. It contains three disulfide bonds and a total of four possible glycosylation sites.  $\alpha$ -antithrombin is the dominant form of antithrombin found in blood plasma and has an oligosaccharide occupying each of its four glycosylation sites. A single glycosylation site remains consistently un-occupied in the minor form of antithrombin,  $\beta$ -antithrombin.

### Application:

Antithrombin III is an inhibitor of thrombin, Factor Xa or Factor VIIa. There is more ATIII in the blood than prothrombin; blood is able to clot only because the reaction of the inhibitor with thrombin is much slower than the action of thrombin on fibrinogen. The reactivity of ATIII is regulated by combination with its activator heparin. Decreased levels of ATIII are found in nephrotic syndrome, DIC, deep vein thrombosis, hypercoagulability syndrome, oral contraceptives, pulmonary embolism, direct hepatotoxicity, and extracorporeal circulation and L-asparaginase administration.

**MW:** 58,200 Daltons.

**Activity:** > 200 units/mg.

**Storage and form:** 2 to -8 °C (Lyophilized powder).

**Package size:** Bulk.

### Reference:

1. Damus, P.S., and Rosenberg, R.D. Meth. Enzymol. 45, 653, (1976).
2. Proteolytic Enzymes: A Practical Approach, (1989), 247.