

Human Thrombin - Purified

Catalog No.: PA1350X

Quantity: 1 mg

Background: Thrombin is the final protease in the blood coagulation cascade and serves both pro- and anticoagulant functions through the cleavage of several targets. The ability of thrombin to specifically recognize a wide range of substrates derives from interactions which occur outside of the active site of thrombin. Thrombin possesses two anion binding exosites which mediate many of its interactions with cofactors and substrates, and although many structures of thrombin have been solved, few such interactions have been described in molecular detail. Glycosaminoglycan binding to exosite II of thrombin plays a major role in switching off the procoagulant functions of thrombin by mediating its irreversible inhibition by circulating serpins and by its binding to the endothelial cell surface receptor thrombomodulin.

Species: Human

Source: Plasma, Human

Format: **State:** Lyophilized
Purity: >95% Greater than 95.0% as determined by:
(a) Analysis by RP-HPLC.
(b) Anion-exchange FPLC.
(c) Analysis by reducing and non-reducing SDS-PAGE Silver Stained gel.

Buffer System: The protein (0.5 mg/ml) was dialyzed against 5 mM sodium citrate, 0.01% PEG, and 0.02 M NaCl, pH 6.5, before lyophilization.

Description: Human Thrombin

Biological Activity: HuThrombin is fully biologically active when compared to standard.

Specific Activity: 2000 U/mg 2000IU/mg

Storage: HuThrombin although stable at room temperature for 4°C, should be stored desiccated below -18°C.

Please prevent freeze-thaw cycles.

Shelf life: one year from despatch.

General Readings:

1. Complement inhibition attenuates brain edema and neurological deficits induced by thrombin. *Acta Neurochir Suppl* 2005;95:389-92
2. Development of nonobstructive intraarterial thrombi after injection of thrombin into pseudoaneurysms. *AJR Am J Roentgenol* 2006 Feb;186(2):401-5
3. Activation of protein C by the thrombin-thrombomodulin complex: cooperative roles of Arg-35 of thrombin and Arg-67 of protein C. *Proc Natl Acad Sci U S A* 2006 Jan 24;103(4):879-84
4. Recombinant human antithrombin inhibits thrombin formation and interleukin 6 release

in human endotoxemia.

Clin Pharmacol Ther 2006 Jan;79(1):23-34

5. Autoantibodies to thrombin directed against both of its cryptic exosites. Br J Haematol 2006 Feb;132(4):487-93

6. Thrombin and prothrombin are expressed by neurons and glial cells and accumulate in neurofibrillary tangles in Alzheimer disease brain. J Neuropathol Exp Neurol 2006 Jan;65(1):19-25