

Human Thrombin

Certificate of Analysis and Data Sheet

➤ Source: Human	➤ Catalog No. PRO-339
---------------------------	---------------------------------

➤ **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.

➤ **Physical Appearance:**

Sterile Filtered White Lyophilized (freeze-dried) powder.

➤ **Formulation:**

Thrombin, at a concentration of 0.5mg/ml, was dialyzed against 5mM sodium citrate, 0.01% PEG, and 0.02M NaCl pH 6.5 before lyophilization.

➤ **Solubility:**

It is recommended to reconstitute the lyophilized Thrombin in sterile 18M Ω -cm H₂O not less than 100 μ g/ml, which can then be further diluted to other aqueous solutions.

➤ **Stability:**

Lyophilized Thrombin, although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. For long-term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Please avoid freeze-thaw cycles.

➤ **Purity:**

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.

➤ **Dimers and aggregates:**

Less than 1% as determined by silver-stained SDS-PAGE gel analysis.

➤ **Biological Activity:**

This Thrombin is fully biologically active when compared to standard. The potency per mg was tested and found to be 2000 Units/mg.

➤ **Endotoxin:**

Less than 0.1 ng/μg (IEU/μg) of Thrombin.

➤ **Usage:**

This material is offered for research, laboratory or further evaluation purposes.