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## Product Data Sheet

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Product Name: Thrombin Bovine

Cat. No.: GP24828

Batch No.: 1

### Product Data

Purity	>98%	Source	Bovine Blood.
Physical Appearance	solid	Shipping Condition	Shipped at Room temp.
Solubility	It is recommended to reconstitute the lyophilized Thrombin in sterile 18MΩ-cm H <sub>2</sub> O.		
Formulation	Lyophilized freeze dry powder formulated with Tris buffer and sodium chloride.		

### Introduction

Thrombin enzyme (Activated Factor IIa) is an important clotting promoter that controls the transformation of soluble fibrinogen to insoluble active fibrin strands. Thrombin is a coagulation protein and a serine protease (EC 3.4.21.5) that catalyzes many coagulation-related reactions. Thrombin triggers factor-XI, factor-V, Factor-XIII and factor-VIII. Thrombin endorses platelet activation, using activation of protease-activated receptors on the platelet. As a result of its high proteolytic specificity, thrombin has become an important biochemical protein. The thrombin cleavage site (Leu-Val-Pro-Arg-Gly-Ser) is widely used in linker regions of recombinant fusion protein constructs. After the purification of the fusion protein, thrombin is used to cleave between the Arginine and Glycine residues of the cleavage site, efficiently removing the purification tag from the protein of interest with a high degree of specificity.

### Biological Activity

Activity was determined by the direct comparison to NIH Thrombin Reference Standard which uses 200ul of diluted plasma 1:1 with saline as a substrate and 100ul of albumin solution based on a modification of the method of Biggs. The clotting durations for determining thrombin activity are in the range of 15–25 seconds at 37C. The specific activity found was 119 NIH units per mg.

### Stability

**Caution: Product has not been fully validated for medical applications. For research use only.**

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Address: 10292 Central Ave. #205, Montclair, CA, USA

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Lyophilized Thrombin although stable at room temperature for 3 weeks, should be stored desiccated below  $-18^{\circ}\text{C}$ . Upon reconstitution Thrombin should be stored at  $4^{\circ}\text{C}$  between 2-7 days and for future use below  $-18^{\circ}\text{C}$ . For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

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