

Thrombin, Active, Human Plasma

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| CATALOG #: | 7593-250 | 250 U |
| | 7593-1000 | 1000 U |
| | 7593-2500 | 2500 U |
| ALTERNATE NAMES: | Activated Factor IIa | |
| SOURCE: | Human Plasma | |
| PURITY: | ≥ 95% | |
| MOL. WEIGHT: | 37 kDa | |
| FORM: | Lyophilized | |
| FORMULATION: | Lyophilized from a buffer composed of 20 mM Bis-Tris, 150 mM NaCl and 0.1% PEG 8000, pH 6.5. | |
| RECONSTITUTION: | A working stock solution can be prepared by adding 1 mL buffered saline, pH 7.4 (ex. 25 mM HEPES, 150 mM NaCl, 0.1% PEG 8000, pH 7.4). Further dilution should be made in buffer containing a suitable stabilizing agent such as 0.1%-1% Prionex, BSA, or PEG. | |
| STORAGE CONDITIONS: | -20°C | |

DESCRIPTION: 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.

ACTIVITY: >3000 units/mg protein.

UNIT DEFINITION: Activity is expressed in NIH/US units obtained by direct comparison to a NIH Thrombin Reference Standard, Lot K. The NIH assay procedure uses 0.2 ml of diluted plasma (1:1 with saline) as a Substrate and 0.1 ml of albumin solution based on a modification of the method of Biggs. Only clotting times in the range of 15–25 seconds are used for determining thrombin activity. Optimal clotting temperature is 37°C. There are approximately 5 Thrombin cleavage units for every one US Unit.

RELATED PRODUCTS:

- PPACK Dihydrochloride (**Cat. No. 1848-5**)
- Alpha 1 Antichymotrypsin, Human Plasma (**Cat. No. 7293-1000**)
- Alpha 1 Antitrypsin, Human Plasma (**Cat. No. 7294-100**)

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