

Product Specification Sheet

Human Plasmin

Cat. # PLN25-N Purified Human plasmin **SIZE:** 1 mg
FORM: Soln Lyophilized

Plasmin is an important enzyme (EC 3.4.21.7) present in blood that degrades many blood plasma proteins, most notably, fibrin clots. The degradation of fibrin is termed fibrinolysis. In humans, the plasmin protein is encoded by the PLG gene

Plasmin is a serine protease that acts to dissolve fibrin blood clots. Apart from fibrinolysis, plasmin proteolyzes proteins in various other systems: It activates collagenases, some mediators of the complement system and weakens the wall of the Graafian follicle (leading to ovulation). It cleaves fibrin, fibronectin, thrombospondin, laminin, and von Willebrand factor. Plasmin, like trypsin, belongs to the family of serine proteases.

Plasmin is released as a zymogen called plasminogen (PLG) from the liver into the systemic circulation. Plasminogen is converted into active plasmin by a variety of enzymes, including tissue plasminogen activator (tPA), urokinase plasminogen activator (uPA), kallikrein, and factor XII (Hageman factor). Fibrin is a cofactor for plasminogen activation by tissue plasminogen activator. Urokinase plasminogen activator receptor (uPAR) is a cofactor for plasminogen activation by urokinase plasminogen activator. The conversion of plasminogen to plasmin involves the cleavage of the peptide bond between Arg-560 and Val-561. Plasmin cleavage produces angiostatin.

Deficiency in plasmin may lead to thrombosis, as clots are not degraded adequately. Plasminogen deficiency in mice leads to defective liver repair, defective wound healing, reproductive abnormalities. In human, a rare disorder called plasminogen deficiency type I (OMIM 217090) is caused by mutations of the PLG gene and is often manifested by ligneous conjunctivitis.

Source of Antigen and Antibodies

Human plasmin was purified (95%, mol wt 77-85 kda) from human plasma protein that has been shown by certified tests to be negative for HbsAg and HIV and HCV. However, all precautions must be taken to avoid contamination.

Minimum Activity: 5 units/mg protein One unit is defined as the amount of enzyme that hydrolyzes one umole of tosyl-Gly-Pro-Lys-pNA per minute at 25oC, pH 7.8. Note: One unit=1.25 CU.

Storage: -20 °C

Purified human plasmin Cat # PLN25-N, is formulated in 20 mM NaP04, pH 7.4, with 10 mg/ml D-Mannitol and 10 mg/ml NaCl or lyophilized in the same buffer and supplied in powder form. Store powder at -20oC for 6 months.

Stock solution should be prepared in distilled water and suitable aliquots stored at -20oC for 1-2 months or 1 week at 4oC.

General References: Forsgren M (1987) FEBS Lett. 213, 254-260; Wilman B (Eur. J. Biochem. 58, 239-547; .

*This product is for in vitro research use only.

Related material available from ADI

Antibodies to Ang-1, Ang-2, Angiostatin, Endostatin, and plasmiongen

Recombinant Mouse and Human VEGFs, Anti-Tie-1 and Tie-2, Anti-flk-1, Flt-1, and Flt-4 (VEGFRs 1-3)

Western Blot recycling kit (Use the same blot to probe with multiple antibodies Ang-1 and Ang-2, etc.) **recycle blot at room temp in 5-10 min;** No mercaptoethanol or heating required).

PLN25-N

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