

Native Human lys-Plasminogen

Cat. No. PLG-55H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Native glu-plasminogen is prepared from fresh frozen human plasma by a modification of the procedure of Castellino, utilizing gel filtration and affinity chromatography.
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Species	Human
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Description	Plasminogen is a single chain glycoprotein zymogen which is synthesized in the liver and circulates in plasma at a concentration of approximately 2.4 μM. The plasminogen molecule contains 790 amino acids, 24 disulfide bridges, no free sulfhydryls and 5 regions of internal sequence homology, known as kringles, between Lys77 and Arg560. These five triple-looped, three disulfide bridged, kringle regions are homologous to the kringle domains in t-PA, u-PA and prothrombin. Plasminogen contains one high affinity ($K_d=9 \times 10^{-6}$M) and four low affinity ($K_d=5 \times 10^{-3}$M) lysine binding sites. The high affinity binding site resides within the first kringle region of plasminogen. The interaction of plasminogen with fibrin and α_2-antiplasmin is mediated by these lysine binding sites. Native glu-plasminogen ($M_r=88,000$) is readily converted to Lys-77-plasminogen ($M_r=83,000$) by plasmin hydrolysis of the Lys76-Lys77 peptide bond. Elastase catalyzed cleavage of the Val441-Val442 peptide bond of glu-plasminogen yields a functionally active zymogen termed Val-442 plasminogen or mini-plasminogen. The conversion of plasminogen to plasmin occurs by a variety of mechanisms, but all result in hydrolysis of the Arg560-Val561 peptide bond of plasminogen, yielding two chains which remain covalently associated by a disulfide bond.
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Form	50% (vol/vol) glycerol/H ₂ O
Molecular Mass	83,000
Purity	>95% by SDS-PAGE NOT tissue/cell culture grade. Not tested for endotoxin.
GENE INFORMATION	
Gene Name	PLG plasminogen [Homo sapiens]
Official Symbol	PLG
Synonyms	PLG; plasminogen; plasmin; DKFZp779M0222;
Gene ID	5340
mRNA Refseq	NM_001168338
Protein Refseq	NP_001161810
MIM	173350
UniProt ID	P00747
Chromosome Location	6q26
Pathway	Activation of Matrix Metalloproteinases, organism-specific biosystem; Angiopoietin receptor Tie2-mediated signaling, organism-specific biosystem; Blood Clotting Cascade, organism-specific biosystem; Complement and Coagulation Cascades, organism-specific biosystem; Complement and coagulation cascades, organism-specific biosystem; Complement and coagulation cascades, conserved biosystem;

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Degradation of the extracellular matrix, organism-specific biosystem;

Function

apolipoprotein binding; cell surface binding; peptidase activity; protein binding; protein domain specific binding; serine-type endopeptidase activity;

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