

## Human glu-Plasminogen

Cat. No. CZY-011

Lot. No. (See product label)

### Introduction

**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  $\mu\text{M}$ . 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 ( $K_d=9 \times 10^{-6}\text{M}$ ) and four low affinity ( $K_d=5 \times 10^{-3}\text{M}$ ) lysine binding sites. The high affinity binding site resides within the first kringle region of plasminogen. The interaction of plasminogen with fibrin and  $\alpha 2$ -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. Native glu-plasminogen is prepared from fresh frozen human plasma by a modification of the procedure of Castellino, utilizing gel filtration and affinity chromatography. The two carbohydrate variants of glu-plasminogen (CHOI and CHOI) are isolated by gradient elution from lysine-Sepharose using the lysine analog,  $\epsilon$ -aminocaproic acid. The plasminogen is supplied in 50% (vol/vol) glycerol/H<sub>2</sub>O for storage at -20°C. Purity is determined by SDS-PAGE analysis.

### Product Information

<b>Source</b>	Human
<b>Formulation</b>	50% glycerol/water (v/v)
<b>CAS No.</b>	9001-91-6
<b>Molecular Weight</b>	88000
<b>Purity</b>	>95% by SDS-PAGE
<b>Specific Activity</b>	<42 ppm Plasmin activity
<b>Concentration</b>	9.9 mg/mL
<b>Isoelectric point</b>	6.2
<b>Structure</b>	single chain, 24 intra chain disulfide bridges, 5 kringle regions.
<b>Buffer</b>	50% Glycerol/ H <sub>2</sub> O (vol/vol)
<b>Localization</b>	Plasma
<b>Extinction coefficient</b>	17
<b>Percent</b>	Approximately 2%

**Percent carbohydrate**      Approximately 2 %

***Usage and Packaging***

**Package**              1 mg

***Storage and Shipping Information***

**Storage**              -20°C

**Stability**            12 months