

## Serpin E1 Protein, Human (HEK293, His)

<b>Cat. No.:</b>	HY-P71077
<b>Synonyms:</b>	Plasminogen Activator Inhibitor 1; PAI; PAI-1; Endothelial Plasminogen Activator Inhibitor; Serpin E1; SERPINE1; PAI1; PLANH1
<b>Species:</b>	Human
<b>Source:</b>	HEK293
<b>Accession:</b>	P05121 (V24-P402)
<b>Gene ID:</b>	5054
<b>Molecular Weight:</b>	Approximately 44-51 kDa

### PROPERTIES

<b>AA Sequence</b>	<pre>V H H P P S Y V A H   L A S D F G V R V F   Q Q V A Q A S K D R   N V V F S P Y G V A S V L A M L Q L T T   G G E T Q Q Q I Q A   A M G F K I D D K G   M A P A L R H L Y K E L M G P W N K D E   I S T T D A I F V Q   R D L K L V Q G F M   P H F F R L F R S T V K Q V D F S E V E   R A R F I I N D W V   K T H T K G M I S N   L L G K G A V D Q L T R L V L V N A L Y   F N G Q W K T P F P   D S S T H R R L F H   K S D G S T V S V P M M A Q T N K F N Y   T E F T T P D G H Y   Y D I L E L P Y H G   D T L S M F I A A P Y E K E V P L S A L   T N I L S A Q L I S   H W K G N M T R L P   R L L V L P K F S L E T E V D L R K P L   E N L G M T D M F R   Q F Q A D F T S L S   D Q E P L H V A Q A L Q K V K I E V N E   S G T V A S S S T A   V I V S A R M A P E   E I I M D R P F L F V V R H N P T G T V   L F M G Q V M E P</pre>
<b>Biological Activity</b>	Measured by its ability to inhibit uPA cleavage of a peptide substrate, N-carbobenzyloxy-Gly-Gly-Arg-7-amido-4-methylcoumarin (Z-GGR-AMC). The IC <sub>50</sub> value is <15 nM, as measured under the described conditions.
<b>Appearance</b>	Lyophilized powder.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution of 20 mM HAC-NaAc, 150 mM NaCl, pH 4.0 or 20 mM HAC-NaAc, 150 mM NaCl, pH 5.5.
<b>Endotoxin Level</b>	<1 EU/µg, determined by LAL method.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
<b>Storage &amp; Stability</b>	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

## DESCRIPTION

### Background

Serpin E1, a serine protease inhibitor, exerts its regulatory influence on various cellular processes. It inhibits TMPRSS7 and serves as the primary inhibitor for both tissue-type plasminogen activator (PLAT) and urokinase-type plasminogen activator (PLAU). In the context of fibrinolysis, Serpin E1 is crucial for down-regulating PLAT, contributing to the controlled degradation of blood clots. Simultaneously, as a PLAU inhibitor, it plays a role in modulating cell adhesion and spreading. Beyond its function as a protease inhibitor, Serpin E1 acts as a regulator of cell migration, impacting processes such as keratinocyte migration during cutaneous injury repair. Its involvement extends to cellular and replicative senescence, contributing to alveolar type 2 cell senescence in the lung. Furthermore, Serpin E1 participates in the regulation of cementogenic differentiation in periodontal ligament stem cells and influences odontoblast differentiation and dentin formation during odontogenesis. The protein engages in various interactions, forming a heterodimer with TMPRSS7 and interacting with multiple partners, including VTN, PPP1CB, PLAUR/uPAR, SORL1, and LRP1, among others, highlighting its multifaceted role in diverse cellular pathways.

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

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