

## Serpin D1 Protein, Human (HEK293, His)

Cat. No.:	HY-P77199
Synonyms:	Heparin cofactor 2; Heparin cofactor II; HC-II; Protease inhibitor leuserpin-2
Species:	Human
Source:	HEK293
Accession:	P05546 (G20-S499)
Gene ID:	3053
Molecular Weight:	Approximately 75-80 kDa

### PROPERTIES

AA Sequence	<div> G S K G P L D Q L E  H K E N T V T N D W  S V S P T D S D V S  V L K D Q V N T F D  I L H F K D F V N A  S V N D L Y I Q K Q  S K T N N H I M K L  V N K F P V E M T H  L D C D I L Q L E Y  R W Q K S M T N R T  K N G N M A G I S D  F M P L S T Q V R F </div> <div> K G G E T A Q S A D  I P E G E E D D D Y  A G N I L Q L F H G  N I F I A P V G I S  S S K Y E I T T I H  F P I L L D F K T K  T K G L I K D A L E  N H N F R L N E R E  V G G I S M L I V V  R E V L L P K F K L  Q R I A I D L F K H  T V D R P F L F L I </div> <div> P Q W E Q L N N K N  L D L E K I F S E D  K S R I Q R L N I L  T A M G M I S L G L  N L F R K L T H R L  V R E Y Y F A E A Q  N I D P A T Q M M I  V V K V S M M Q T K  P H K M S G M K T L  E K N Y N L V E S L  Q G T I T V N E E G  Y E H R T S C L L F </div> <div> L S M P L L P A D F  D D Y I D I V D S L  N A K F A F N L Y R  K G E T H E Q V H S  F R R N F G Y T L R  I A D F S D P A F I  L N C I Y F K G S W  G N F L A A N D Q E  E A Q L T P R V V E  K L M G I R M L F D  T Q A T T V T T V G  M G R V A N P S R S </div>
Biological Activity	Measured by its ability to inhibit Thrombin cleavage of a peptide substrate, Boc-VPR-AMC. The IC <sub>50</sub> value is 0.344 nM, as measured under the described conditions.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	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).
Storage & Stability	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.
Shipping	Room temperature in continental US; may vary elsewhere.

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## DESCRIPTION

### Background

Serpin D1 Protein functions as a thrombin inhibitor, with its activity activated by glycosaminoglycans such as heparin or dermatan sulfate. In the presence of dermatan sulfate, HC-II becomes the predominant thrombin inhibitor, displacing antithrombin III (AT-III). Beyond its role in thrombin inhibition, Serpin D1 also exhibits chymotrypsin-inhibiting activity, independent of glycosaminoglycans. Notably, peptides at the N-terminal of HC-II demonstrate chemotactic activity for both monocytes and neutrophils. This multifaceted functionality highlights the diverse roles of Serpin D1 in regulating protease activities and participating in immune responses, underscoring its significance in maintaining hemostasis and modulating inflammatory processes.

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

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