

HAI-1 Protein, Human (His)

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| Cat. No.: | HY-P73091 |
| Synonyms: | Kunitz-type protease inhibitor 1; HAI-1; SPINT1; HAI1 |
| Species: | Human |
| Source: | HEK293 |
| Accession: | O43278-2 (36G-V433) |
| Gene ID: | 6692 |
| Molecular Weight: | 50-70 kDa |

PROPERTIES

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| AA Sequence | <pre> G P P P A P P G L P A G A D C L N S F T A G V P G F V L D T N A S V S N G A T F L E S P T V R R G W D C V R A C C T T Q N C N L A L V E L Q P D R G E D A I A A C F L I N C L Y E Q N F V C K F A P R E G F I N Y L T R E V Y R S Y R Q L R T Q G F G G S G I P K A W A G I D L K V Q P Q E P L V L K D V E N T D W R L L R G D T D V R V E R K D P N Q V E L W G L K E G T Y L F Q L T V T S S D H P E D T A N V T V T V L S T K Q T E D Y C L A S N K V G R C R G S F P R W Y Y D P T E Q I C K S F V Y G G C L G N K N N Y L R E E E C I L A C R G V Q G P S M E R R H P V C S G T C Q P T Q F R C S N G C C I D S F L E C D D T P N C P D A S D E A A C E K Y T S G F D E L Q R I H F P S D K G H C V D L P D T G L C K E S I P R W Y Y N P F S E H C A R F T Y G G C Y G N K N N F E E E Q Q C L E S C R G I S K K D V </pre> |
| Biological Activity | Measured by its ability to inhibit trypsin cleavage of a fluorogenic peptide substrate, Mca-Arg-Pro-Lys-Pro-Val-Glu-NVAL-Trp-Arg-Lys(DNP)-NH ₂ . The IC ₅₀ is < 1 nM. |
| Appearance | Lyophilized powder |
| Formulation | Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization. |
| 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 ₂ O. |
| 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. |

DESCRIPTION

Background

The HAI-1 Protein functions as an inhibitor of HGFAC and exhibits inhibitory effects on the serine protease activity of ST14/matriptase in vitro. Through its BPTI/Kunitz inhibitor 1 domain, HAI-1 also impedes the serine protease activity of TMPRSS13. Interacting with HGFAC and TMPRSS13, HAI-1 forms dynamic associations that influence cellular processes. The interaction with HGFAC suggests a regulatory role in the activation of this protease, while the interaction with TMPRSS13 promotes the phosphorylation and cell membrane localization of TMPRSS13. These intricate interactions and inhibitory functions highlight the versatile regulatory role of HAI-1 in modulating serine protease activities, underscoring its significance in cellular homeostasis and proteolytic pathways.

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

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