Insulysin/IDE Protein, Human (HEK293, His)

Cat. No.:	HY-P70291
Synonyms:	rHuInsulin-degrading enzyme/IDE, His ; Insulin-Degrading Enzyme; Abeta-Degrading Protease; Insulin Protease; Insulinase; Insulysin; IDE
Species:	Human
Source:	HEK293
Accession:	P14735 (M42-L1019)
Gene ID:	3416
Molecular Weight:	Approximately 120.0 kDa

PROPERTIES

AA Sequence

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M N N P A I K R I G   N H I T K S P E D K   R E Y R G L E L A N   G I K V L L I S D P
T T D K S S A A L D   V H I G S L S D P P   N I A G L S H F C E   H M L F L G T K K Y
P K E N E Y S Q F L   S E H A G S S N A F   T S G E H T N Y Y F   D V S H E H L E G A
L D R F A Q F F L C   P L F D E S C K D R   E V N A V D S E H E   K N V M N D A W R L
F Q L E K A T G N P   K H P F S K F G T G   N K Y T L E T R P N   Q E G I D V R Q E L
L K F H S A Y Y S S   N L M A V C V L G R   E S L D D L T N L V   V K L F S E V E N K
N V P L P E F P E H   P F Q E E H L K Q L   Y K I V P I K D I R   N L Y V T F P I P D
L Q K Y Y K S N P G   H Y L G H L I G H E   G P G S L L S E L K   S K G W V N T L V G
G Q K E G A R G F M   F F I I N V D L T E   E G L L H V E D I I   L H M F Q Y I Q K L
R A E G P Q E W V F   Q E C K D L N A V A   F R F K D K E R P R   G Y T S K I A G I L
H Y Y P L E E V L T   A E Y L L E E F R P   D L I E M V L D K L   R P E N V R V A I V
S K S F E G K T D R   T E E W Y G T Q Y K   Q E A I P D E V I K   K W Q N A D L N G K
F K L P T K N E F I   P T N F E I L P L E   K E A T P Y P A L I   K D T A M S K L W F
K Q D D K F F L P K   A C L N F E F F S P   F A Y V D P L H C N   M A Y L Y L E L L K
D S L N E Y A Y A A   E L A G L S Y D L Q   N T I Y G M Y L S V   K G Y N D K Q P I L
L K K I I E K M A T   F E I D E K R F E I   I K E A Y M R S L N   N F R A E Q P H Q H
A M Y Y L R L L M T   E V A W T K D E L K   E A L D D V T L P R   L K A F I P Q L L S
R L H I E A L L H G   N I T K Q A A L G I   M Q M V E D T L I E   H A H T K P L L P S
Q L V R Y R E V Q L   P D R G W F V Y Q Q   R N E V H N N C G I   E I Y Y Q T D M Q S
T S E N M F L E L F   C Q I I S E P C F N   T L R T K E Q L G Y   I V F S G P R R A N
G I Q G L R F I I Q   S E K P P H Y L E S   R V E A F L I T M E   K S I E D M T E E A
F Q K H I Q A L A I   R R L D K P K K L S   A E C A K Y W G E I   I S Q Q Y N F D R D
N T E V A Y L K T L   T K E D I I K F Y K   E M L A V D A P R R   H K V S V H V L A R
E M D S C P V V G E   F P C Q N D I N L S   Q A P A L P Q P E V   I Q N M T E F K R G
L P L F P L V K P H   I N F M A A K L
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Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Solution.
Formulation	Supplied as a 0.2 µm filtered solution of 20 mM Tris-HCl, 150 mM NaCl, 0.05% Brij35, 10% Glycerol, pH 7.5.

Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	N/A
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background	Insulysin/IDE protein plays a crucial role in the intricate cellular breakdown of various peptides, including insulin, APP peptides, IAPP peptides, natriuretic peptides, glucagon, bradykinin, kallidin, and others. This multifaceted involvement underscores its significance in intercellular peptide signaling and the regulation of peptide hormone cascades. Substrate binding induces vital conformational changes, enabling the degradation of larger substrates, such as insulin. Insulysin/IDE contributes to the intricate regulation of blood glucose homeostasis by participating in the degradation of insulin, glucagon, and IAPP. Additionally, it plays a pivotal role in the clearance of amyloidogenic peptides derived from APP, impacting neuronal and microglial processes. The protein is also implicated in the degradation of natriuretic peptides, ANP, BNP, and CNP, thereby inactivating their ability to raise intracellular cGMP. Furthermore, Insulysin/IDE is involved in antigen processing, producing antigenic peptides presented to cytotoxic T lymphocytes. In microbial infection, the membrane-associated isoform acts as an entry receptor for varicella-zoster virus (VZV).

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