

Animal-Free MMP-2 Protein, Human (His)

Cat. No.:	HY-P700139AF
Synonyms:	rHu72 kDa type IV collagenase/MMP-2, His ; 72 kDa Type IV Collagenase; 72 kDa Gelatinase; Gelatinase A; Matrix Metalloproteinase-2; MMP-2; TBE-1; MMP2; CLG4A
Species:	Human
Source:	E. coli
Accession:	P08253 (Y110-C660)
Gene ID:	4313
Molecular Weight:	Approximately 63.00 kDa

PROPERTIES

AA Sequence

M Y N F F P R K P K	W D K N Q I T Y R I	I G Y T P D L D P E	T V D D A F A R A F
Q V W S D V T P L R	F S R I H D G E A D	I M I N F G R W E H	G D G Y P F D G K D
G L L A H A F A P G	T G V G G D S H F D	D D E L W T L G E G	Q V V R V K Y G N A
D G E Y C K F P F L	F N G K E Y N S C T	D T G R S D G F L W	C S T T Y N F E K D
G K Y G F C P H E A	L F T M G G N A E G	Q P C K F P F R F Q	G T S Y D S C T T E
G R T D G Y R W C G	T T E D Y D R D K K	Y G F C P E T A M S	T V G G N S E G A P
C V F P F T F L G N	K Y E S C T S A G R	S D G K M W C A T T	A N Y D D D R K W G
F C P D Q G Y S L F	L V A A H E F G H A	M G L E H S Q D P G	A L M A P I Y T Y T
K N F R L S Q D D I	K G I Q E L Y G A S	P D I D L G T G P T	P T L G P V T P E I
C K Q D I V F D G I	A Q I R G E I F F F	K D R F I W R T V T	P R D K P M G P L L
V A T F W P E L P E	K I D A V Y E A P Q	E E K A V F F A G N	E Y W I Y S A S T L
E R G Y P K P L T S	L G L P P D V Q R V	D A A F N W S K N K	K T Y I F A G D K F
W R Y N E V K K K M	D P G F P K L I A D	A W N A I P D N L D	A V V D L Q G G G H
S Y F F K G A Y Y L	K L E N Q S L K S V	K F G S I K S D W L	G C

Biological Activity The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.

Appearance Lyophilized powder.

Formulation Lyophilized from a 0.2 µm filtered solution of PBS, pH 8.0.

Endotoxin Level <0.1 EU per 1 µg of the protein by the LAL method.

Reconstitution It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH₂O.

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 MMP-2 protein, a ubiquitous metalloproteinase, actively participates in a spectrum of physiological processes, including vasculature remodeling, angiogenesis, tissue repair, tumor invasion, inflammation, and atherosclerotic plaque rupture. Beyond its role in degrading extracellular matrix proteins, this protein demonstrates versatility by acting on non-matrix proteins, such as big endothelial 1 and beta-type CGRP, thereby promoting vasoconstriction. Additionally, it cleaves KISS at a Gly-|-Leu bond and appears to play a role in myocardial cell death pathways. By regulating the activity of GSK3beta and cleaving GSK3beta in vitro, it contributes to myocardial oxidative stress. In association with MMP14, MMP-2 is involved in the formation of fibrovascular tissues. Notably, the C-terminal non-catalytic fragment of MMP-2, known as PEX, possesses anti-angiogenic and anti-tumor properties, inhibiting cell migration and adhesion to FGF2 and vitronectin. Furthermore, it serves as a ligand for integrin alpha-v/beta3 on the surface of blood vessels.

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

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