

MMP-2 Protein, Human (HEK293, His)

Cat. No.:	HY-P70268
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:	HEK293
Accession:	P08253 (A30-C660)
Gene ID:	4313
Molecular Weight:	68-78 kDa

PROPERTIES

AA Sequence

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

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Biological Activity Measured by its ability to cleave the fluorogenic peptide substrate, Mca-PLGL-Dpa-AR-NH₂. The specific activity is 4214 pmol/min/μg, as measured under the described conditions.

Appearance Lyophilized powder

Formulation Lyophilized from a 0.2 μm filtered solution of 20 mM Tris-HCl, 150 mM NaCl, pH 7.5.

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 ddH₂O. 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.

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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