MMP-2 Protein, Rat (P. pastoris, His)

Cat. No.:	HY-P700573
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:	Rat
Source:	P. pastoris
Accession:	P33436 (Y110-C662)
Gene ID:	81686
Molecular Weight:	64.1 kDa

PROPERTIES

AA Sequence	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 L K 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 R E Y S 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 G D G Q P C K F P F R F Q G T S Y N 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 V W C A T T T 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 N D D I K G I Q E L Y G P S P D A D T D T 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 T 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 V Y S A S T L E R G Y P K P L T S L G L P P D V Q Q V D A A F N W S K N K K T Y I F S G D K F W R Y N E V K K K M D P G F P K L I A D S 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 Tris/PBS-based buffer, 6% Trehalose, pH 8.0.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
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	MMP-2, a ubiquitinous metalloproteinase, plays a multifaceted role in diverse biological processes, encompassing vasculature remodeling, angiogenesis, tissue repair, tumor invasion, inflammation, and atherosclerotic plaque rupture. Beyond its conventional role in degrading extracellular matrix proteins, MMP-2 exhibits versatility by acting on non-matrix proteins like big endothelial 1 and beta-type CGRP, thereby promoting vasoconstriction. Additionally, it cleaves KISS at a Gly-|-Leu bond and appears implicated in myocardial cell death pathways, contributing to myocardial oxidative stress through the regulation of GSK3beta activity, which it cleaves in vitro. Remarkably, 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 while serving as a ligand for integrin alpha-v/beta3 on the surface of blood vessels.

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