

MMP-14 Protein, Human (His-SUMO)

Cat. No.:	HY-P700007
Synonyms:	Matrix metalloproteinase 14 ; Matrix metalloproteinase-14; Membrane type 1 matrix metalloproteinase ; Membrane type 1 metalloprotease; Membrane type matrix metalloproteinase 1; Membrane-type-1 matrix metalloproteinase; MMP 14; MMP X1; MMP-14; MMP-X1; Mmp14; MMP14_HUMAN; MMPX1; MT MMP 1;
Species:	Human
Source:	E. coli
Accession:	P50281 (Y112-V582)
Gene ID:	4323
Molecular Weight:	Approximately 69.9 kDa.

PROPERTIES

AA Sequence	<pre> Y A I Q G L K W Q H N E I T F C I Q N Y T P K V G E Y A T Y E A I R K A F R V W E S A T P L R F R E V P Y A Y I R E G H E K Q A D I M I F F A E G F H G D S T P F D G E G G F L A H A Y F P G P N I G G D T H F D S A E P W T V R N E D L N G N D I F L V A V H E L G H A L G L E H S S D P S A I M A P F Y Q W M D T E N F V L P D D D R R G I Q Q L Y G G E S G F P T K M P P Q P R T T S R P S V P D K P K N P T Y G P N I C D G N F D T V A M L R G E M F V F K E R W F W R V R N N Q V M D G Y P M P I G Q F W R G L P A S I N T A Y E R K D G K F V F F K G D K H W V F D E A S L E P G Y P K H I K E L G R G L P T D K I D A A L F W M P N G K T Y F F R G N K Y Y R F N E E L R A V D S E Y P K N I K V W E G I P E S P R G S F M G S D E V F T Y F Y K G N K Y W K F N N Q K L K V E P G Y P K S A L R D W M G C P S G G R P D E G T E E E T E V I I I E V D E E G G G A V S A A A V V L P V L L L L L V L A V G L A V F F F R R H G T P R R L L Y C Q R S L L D K V </pre>
Biological Activity	Measured by its ability to cleave a fluorogenic peptide substrate Mca-KPLGL-Dpa-AR-NH ₂ . The specific activity is 3373.72 pmol/min/μg, as measured under the described conditions.
Appearance	Lyophilized powder.
Formulation	Lyophilized a 0.2 μm filtered solution of 10 mM Tris-HCl, 1 mM EDTA, 6% Trehalose, pH 8.0.
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

MMP-14 Protein serves as a critical endopeptidase, targeting various components of the extracellular matrix, notably collagen, and playing a pivotal role in pericellular collagenolysis during development, contributing to the modeling of both skeletal and extracellular connective tissues. Additionally, MMP-14 activates progelatinase A, acting as a key player in the intricate regulation of the extracellular matrix. Beyond its matrix-degrading functions, MMP-14 is implicated in actin cytoskeleton reorganization by cleaving PTK7, highlighting its involvement in cellular processes beyond matrix remodeling. Furthermore, MMP-14 acts as a positive regulator of cell growth and migration through the activation of MMP15 and plays a crucial role in the formation of fibrovascular tissues in conjunction with pro-MMP2. Notably, MMP-14 cleaves ADGRB1, releasing vasculostatin-40, which exerts anti-angiogenic effects by inhibiting angiogenesis. This multifaceted functionality underscores MMP-14's significance in orchestrating diverse cellular processes and its potential as a therapeutic target in various physiological contexts.

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

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