

Matrix Metalloproteinase 1 (MMP1) Active Protein | MMP1 active protein

Active Matrix Metalloproteinase 1 (MMP1)

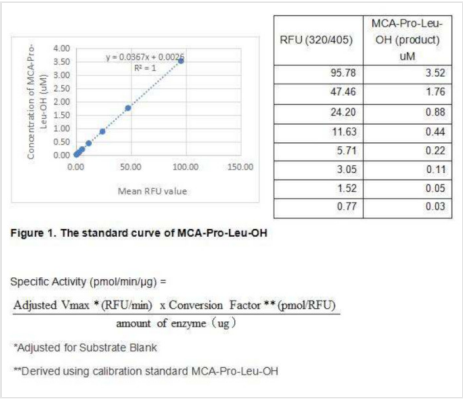
CATALOG # AAA152977	HOST 293F cell	APPLICATIONS Activity Assay, Cell Culture
-------------------------------	--------------------------	---

PRODUCT SYNONYMS

Matrix Metalloproteinase 1 (MMP1); Active Matrix Metalloproteinase 1 (MMP1); Matrix Metalloproteinase 1; MMP1 active protein (eukaryotic; 293F Cell); Human; CLGN; CLG1; Collagenase; Interstitial Collagenase; Vertebrate Collagenase; Fibroblast Collagenase; MMP1 active protein

PRODUCT SPECIFICATIONS

Host	293F cell
Purity/Purification	>95%
Form/Format	PBS, pH7.4, containing 5% trehalose.
Concentration	300ug/mL (varies by lot)
Applicable Applications for MMP1 active protein	Activity Assay, Cell Culture
Source	Eukaryotic expression
Residues	Phe20~Asn469
Tags	N-terminal His-tag
Endotoxin Level	<1.0EU per 1?g (determined by the LAL method).
Predicted isoelectric point	6.9
Usage	Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
Phenomenon explanation	The possible reasons that the actual band size differs from the predicted are as follows: 1. Splice variants: Alternative splicing may create different sized proteins from the same gene. 2. Relative charge: The composition of amino acids may affects the charge of the protein. 3. Post-translational modification: Phosphorylation, glycosylation, methylation etc. 4. Post-translation cleavage: Many proteins are synthesized as pro-proteins, and then cleaved to give the active form. 5. Polymerization of the target protein: Dimerization, multimerization etc
Preparation and Storage	Storage: Avoid repeated freeze/thaw cycles. Store at 2-8°C for one month. Aliquot and store at -80°C for 12 months. Stability Test: The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37°C for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition

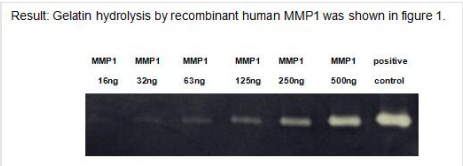


Sequence

	F	PATLETQEQD	VDLVQKYLEK	YYNLKNDGRQ
VEKRRNSGPV	VEKLKQMGEF	FGLKVTGKPD	AETLKVMKQP	RCGVPDVAQF
VLTEGNPRWE	QTHLYRIEN	YTPDLPRADV	DHAIEKAFQL	WSNVTPLTFT
KVSEGDADIM	ISFVRGDHRD	NSPFDGPGGN	LAHAFAQPGG	IGGDAHFDED
ERWTNNFREY	NLHRVAAHEL	GHSGLSHST	DIGALMYPST	TFSGDVQLAQ
DDIDGIQAIY	GRSQNPVQPI	GPQTPKACDS	KLTFDAITTI	RGEVMFFKDR
FYMRTNPFYP	EVELNFISVF	WPQLPNGLEA	AYEFADRDEV	RFFKGKQYWA
VQGNVNLHGY	PKDIYSSFGF	PRTVKHIDAA	LSEENTGKTY	FFVANKYWRV
DEYKRSMDPG	YPKMIADHFP	GIGHKVDADF	MKGDFFYFFH	GTRQYKDFPK
TKRILTQKA	NSWFNCRKN			

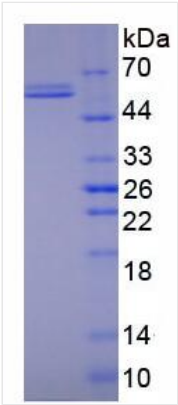
Bioactivity

MMP1 is a zinc-dependent enzymes capable of cleaving components of the extracellular matrix, which belongs to the matrix metalloproteinase (MMP) family. MMP-1 (interstitial collagenase), can degrade a broad range of substrates including types I, II, III, VII, VIII, and X collagens as well as casein, gelatin and so on. MMP-1 is expressed by fibroblasts, keratinocytes, endothelial cells, monocytes and macrophages. Structurally, MMP-1 may be divided into several distinct domains; a pro-domain which is cleaved upon activation; a catalytic domain containing the zinc binding site; a short hinge region and a carboxyl terminal (hemopexin-like) domain. The activity of recombinant human MMP1 is measured by its ability to cleave a fluorogenic peptide substrate Mca-KPLGL-Dpa-AR-NH2 in the assay buffer 50 mM Tris, 10 mM CaCl2, 150 mM NaCl, 0.05% (w/v) Brij-35, pH 7.5. The rhMMP1 is diluted to 50 ug/ml in assay buffer, then activated by p-aminophenylmercuric acetate (APMA) in a final concentration of 1 mM incubated at 37 °C for 2 hours. The activated rhMMP-1 is diluted to 1 ug/mL in assay buffer. Loading into a black well plate 50 uL of 1 ug/mL rhMMP-1 and start the reaction by adding 50 uL of 20 uM substrate, with a substrate blank containing 50 uL assay buffer, 50 uL substrate, and no rhMMP-1. Then read at excitation and emission wavelengths of 320 nm and 405 nm, respectively, in kinetic mode for 5 minutes. The specific activity of recombinant human MMP1 is > 140 pmol/min/ug.



Bioactivity

MMP1 is a zinc-dependent enzymes capable of cleaving components of the extracellular matrix, which belongs to the matrix metalloproteinase (MMP) family. MMP-1 (interstitial collagenase), can degrade a broad range of substrates including types I, II, III,



SDS-PAGE

ADDITIONAL INFORMATION

Product Categories/Family for MMP1 active protein	Active proteins
--	-----------------

NCBI AND UNIPROT INFORMATION

NCBI GI #	4505215
NCBI GeneID	4312
NCBI Accession #	NP_002412.1
NCBI GenBank Nucleotide #	NM_002421.3

UniProt Accession #	P03956 ; P08156
Molecular Weight	Predicted Molecular Mass: 53.5kDa Accurate Molecular Mass: 58&62kDa as determined by SDS-PAGE reducing conditions.
NCBI Official Full Name	interstitial collagenase isoform 1 preproprotein
NCBI Official Synonym Full Names	matrix metalloproteinase 1 (interstitial collagenase)
NCBI Official Symbol	MMP1
NCBI Official Synonym Symbols	CLG; CLGN
NCBI Protein Information	interstitial collagenase; fibroblast collagenase; matrix metalloproteinase 1; matrix metalloproteinase 1
UniProt Protein Name	Interstitial collagenase
UniProt Gene Name	MMP1
UniProt Synonym Gene Names	CLG; MMP-1
UniProt Entry Name	MMP1_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com

Online datasheet: <https://www.aaabiotech.com/293f-cell-active-protein/matrix-metalloproteinase-1-mmp1/152977>