

Active Recombinant Human MMP1 Protein, Tag Free, No Activation Required

Cat. No. MMP1-29H **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Recombinant matrix metalloproteinase-1 (MMP-1, fibroblast collagenase, collagenase-1, interstitial collagenase) cloned from human cDNA, expressed in E. coli. The enzyme consists of the catalytic domain of human MMP-1 (residues 106-261, UniProtKB accession P03956).

Species

Human

Source

E.coli

ProteinLength

106-261 aa

Description

This gene encodes a member of the peptidase M10 family of matrix metalloproteinases (MMPs). Proteins in this family are involved in the breakdown of extracellular matrix in normal physiological processes, such as embryonic development, reproduction, and tissue remodeling, as well as in disease processes, such as arthritis and metastasis. The encoded preproprotein is proteolytically processed to generate the mature protease. This secreted protease breaks down the interstitial collagens, including types I, II, and III. The gene is part of a cluster of MMP genes on chromosome 11. Mutations in this gene are associated with chronic obstructive pulmonary disease (COPD). Alternative splicing results in multiple transcript variants, at least one of which encodes an isoform that is proteolytically processed.

 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

Bio-activity	> 100 U/μg. Activity described as U = 100 pmol/min at 25 centigrade using a colorimetric assay with thiopeptide Ac-Pro-Leu-Gly-[2-mercapto-4-methyl-pentanoyl]-Leu-Gly-OC ₂ H ₅ (Biomol) as substrate.
Molecular Mass	17.6 kDa
AASequence	M-NPRWEQTHLT YRIEN YTPDLPRADV DHAIEKAFQLWSNV TPLTFT160170180190 200KVSE GQADIMISFVRGDHRD NSPFDGPGGNLAHAFQPGPGIGGDAHFDED2102 20230240250ERWTNNFREYNLHRVAAHELGHSLGLSHSTDIGALMYPSTYFSGDVQ LAQ260DDIDGIQAIYG
Purity	> 95% by SDS-PAGE. The protein is observed, in denaturing conditions, as a single band migrating at a molecular weight between 14.4 and 18.4 kDa.
Applications	Enzyme kinetic studies, cleavage of target substrates and screening of inhibitors.
Storage	At -80 centigrade. After initial defrost, aliquot the product into individual tubes and refreeze at -80 centigrade. Avoid repeated freeze/thaw cycles.
Concentration	0.2 mg/mL. The concentration is calculated by the analysis of the absorbance at 280 nm ($\epsilon_{280} = 28420 \text{ M}^{-1}\text{cm}^{-1}$ calculated).
Storage Buffer	Tris 20 mM, pH 7.2, CaCl ₂ 10 mM, ZnCl ₂ 0.1 mM, NaCl 0.3 M, acetohydroxamic acid (AHA) 0.2 M.

GENE INFORMATION

Gene Name	MMP1 matrix metalloproteinase 1 (interstitial collagenase) [Homo sapiens (human)]
Official Symbol	MMP1

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Synonyms	MMP1; matrix metalloproteinase 1 (interstitial collagenase); CLG, matrix metalloproteinase 1 (interstitial collagenase); interstitial collagenase; fibroblast collagenase; matrix metalloproteinase 1; matrix metalloproteinase 1; CLG; CLGN;
Gene ID	4312
mRNA Refseq	NM_001145938
Protein Refseq	NP_001139410
MIM	120353
UniProt ID	P03956

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