Recombinant Human Matrix Metallopeptidase 1, Catalytic Domain

Cat. No. MMP1-148H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human matrix metalloproteinase-1 (MMP-1, fibroblast collagenase, collagenase-1, interstitial collagenase) cloned from human cDNA was expressed in*E. coli*. The enzyme consists of the catalytic domain of human MMP-1 (residues 106-261, swissprot accession P03956). MW=17.6 kDa.
Species	Human
Source	E.coli
ProteinLength	106-261 a.a.
Description	Proteins of the matrix metalloproteinase (MMP) 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. Most MMP"s are secreted as inactive proproteins which are activated when cleaved by extracellular proteinases. This gene encodes a secreted enzyme which breaks down the interstitial collagens, types I, II, and III. The gene is part of a cluster of MMP genes which localize to chromosome 11q22.3.In addition, mechanical force may increase the expression of MMP1 in human periodontal ligament cells.
Purity	> 95% by SDS-PAGE. The enzyme was observed as a single band migrating at a molecular weight <20 kDa.

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

Specific Activity	>100U/μg. Activity described as U=100 pmol/min at 25ºC using a colorimetric assay with thiopeptide Ac-Pro-Leu-Gly-[2-mercapto-4-methyl-pentanoyl]-Leu-Gly-OC2H5 (Bi omol) as substrate.
Usage	Enzyme kinetic studies, cleavage of target substrates and screening of inhibitors.
Supplied As	0.2mg/ml in 20mM Tris, pH 7.2, 10mM CaCl2, 0.1mM ZnCl2, 0.3M NaCl, 0.2M Acetohydroxamic Acid (AHA). The concentration is calculated from the absorbance at 280nm. (e280 = 25440 M-1 cm-1).
Note	Under the above described conditions, to avoid precipitation or protein dimerization, the product can be concentrated to a maximum concentration of 1mM.
Storage	-80ºC. The enzyme is stable at -20ºC for at least 1 week. After initial defrost, aliquot enzyme into individual tubes and refreeze at -80ºC. Avoid repeated freeze/defrost cycles.

GENE INFORMATION

Gene Name	MMP1 matrix metallopeptidase 1 (interstitial collagenase) [Homo sapiens]
Synonyms	MMP1; matrix metallopeptidase 1 (interstitial collagenase); CLG; CLGN; matrix metalloproteinase 1; fibroblast collagenase; matrix metalloprotease 1; EC 3.4.24.7; Interstitial collagenase; Matrix metalloproteinase-1; MMP-1; Fibroblast collagenase; 22 kDa interstitial collagenase; 27 kDa interstitial collagenase
Gene ID	4312
mRNA Refseq	NM_001145938
Protein Refseq	NP_001139410

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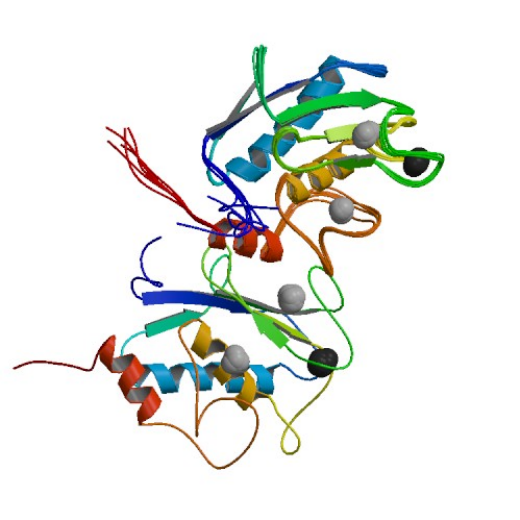
MIM	120353
UniProt ID	P03956
Chromosome Location	11q21-q22
Pathway	Bladder cancer; PPAR signaling pathway; Pathways in cancer; Diabetes pathways; Hemostasis; Signaling in Immune system
Function	calcium ion binding; metalloendopeptidase activity; peptidase activity; zinc ion binding
	

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