Active Recombinant Human MMP3 protein, Catalytic Domain No Activation Required

Cat. No. MMP3-152H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human matrix metalloproteinase-3 (MMP-3, stromelysin-1, transin) cloned from human cDNA was expressed in*E. coli*. The enzyme consists of the catalytic domain of human MMP-3 (residues 105-265 swissprot accession P08254). The protein has been mutated to increase its stability, as the mutation drastically reduces the enzyme's rate of autoproteolysis. The catalytic activity rates are not affected by the mutation. MW=18 kDa.
Species	Human
Source	E.coli
ProteinLength	105-265 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 an enzyme which degrades fibronectin, laminin, collagens III, IV, IX, and X, and cartilage proteoglycans. The enzyme is thought to be involved in wound repair, progression of atherosclerosis, and tumor initiation. The gene is part of a cluster of MMP genes which localize to chromosome 11q22.3.

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Purity	> 95% by SDS-PAGE. The enzyme was observed as a single band migrating at a molecular weight of < 20 kDa.
Specific Acivity	>30U/μg. Activity described as U=100 pmol/min at 37ºC using a colorimetric assay wit h thiopeptolide Ac-Pro-Leu-Gly-[2-mercapto-4-methyl-pentanoyl]-Leu-Gly-OC_2H_5(Bio mol) 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 $CaCl_2$, 0.1mM $ZnCl_2$, 0.3M NaCl, 0.2M Acetohydroxamic Acid (AHA). The concentration is calculated from the absorbance at 280nm, (e280 = 27310 M-1 cm-1).
Note	Under the above described conditions, to avoid precipitation or protein dimerization, the product can be concentrated to a maximum of 0.5mM.
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	MMP3 matrix metallopeptidase 3 (stromelysin 1, progelatinase) [Homo sapiens]
Synonyms	MMP3; matrix metallopeptidase 3 (stromelysin 1, progelatinase); SL-1; STMY; STR1; CHDS6; MMP-3; STMY1; MGC126102; MGC126103; matrix metalloproteinase 3; transin-1Proteoglycanase; matrix metalloproteinase 3 (stromelysin 1, progelatinase); EC 3.4.24.17 MGC126104; Stromelysin-1; Matrix metalloproteinase-3
Gene ID	4314

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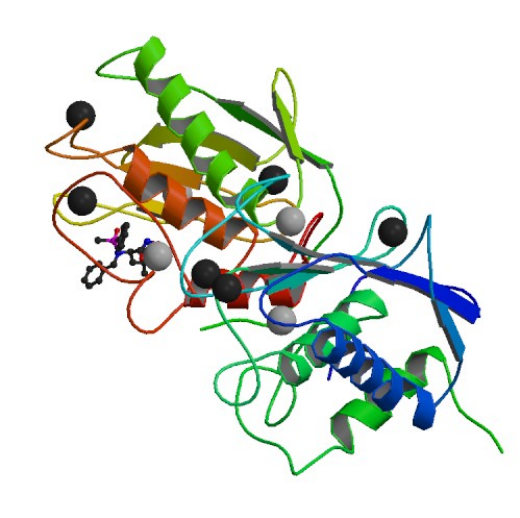
mRNA Refseq	NM_002422
Protein Refseq	NP_002413
MIM	185250
UniProt ID	P08254
Chromosome Location	11q22.3
Function	calcium ion binding; metalloendopeptidase activity; peptidase activity; zinc ion binding
PDB rendering based on 1b3d.	

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