

Recombinant Human MMP12

Cat. No. MMP12-158H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human MMP12, cloned from human cDNA, was expressed in E. coli. The protein consists of the hemopexin-like domain of human MMP-12 (residues 278-470, swissprot accession P39900).
Species	Human
Source	E.coli
ProteinLength	278-470 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. It is thought that the protein encoded by this gene is cleaved at both ends to yield the active enzyme, but this processing has not been fully described. The enzyme degrades soluble and insoluble elastin. It may play a role in aneurysm formation and studies in mice suggest a role in the development of emphysema. The gene is part of a cluster of MMP genes which localize to chromosome 11q22.3.
Form	Solution in Tris 50mM pH 7.2, CaCl ₂ 10mM, ZnCl ₂ 0.1mM, NaCl 300mM. The concentration is calculated from the absorbance at 280nm ($\epsilon_{280} = 46995 \text{ M}^{-1} \text{ cm}^{-1}$).
Molecular Mass	23.2 kDa

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AA Sequence	M-EPA LCDPNLSFDA VTTVGNKIFF FKDRFFWLKV SERPKTSVNL ISSLWPTLPS GIEAAYEIEA RNQVFLFKDD KYWLISNLRP EPNYPKSIHS FGFPNFVKKI DAAVFNPRFY RTYFFVDNQY WRYDERRQMM DPGYPKLITK NFQGIGPKID AVFYSKNKYY YFFQGSNQFE YDFLLQRITK TLKSNSWFGC
Purity	>95% by SDS-PAGE. The protein was observed as a single band migrating at a molecular weight between 20 and 30kDa.
Storage	-20°C. After initial defrost, aliquot product into individual tubes and refreeze at -20°C. Avoid repeated freeze/thaw cycles.
Concentration	200µM
GENE INFORMATION	
Gene Name	MMP12 matrix metalloproteinase 12 (macrophage elastase) [Homo sapiens (human)]
Official Symbol	MMP12
Synonyms	MMP12; ME; HME; MME; MMP-12; matrix metalloproteinase 12 (macrophage elastase); macrophage metalloelastase; NP_002417.2; EC 3.4.24.65
Gene ID	4321
mRNA Refseq	NM_002426
Protein Refseq	NP_002417
MIM	601046
UniProt ID	P39900

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Chromosome Location	11q22.3
Pathway	Collagen degradation; Degradation of the extracellular matrix; Extracellular matrix organization
Function	calcium ion binding; endopeptidase activity; metalloendopeptidase activity

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