

Active Recombinant Human MMP12 Protein, Tag Free, No Activation Required

Cat. No. MMP12-30H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Matrix Metalloproteinase-12 (MMP-12, Metalloelastase, Macrophage elastase) cloned from human cDNA, expressed in E. coli. The enzyme consists of the wild type catalytic domain of human MMP-12 (residues 106-263, UniProtKB accession P39900).
Species	Human
Source	E.coli
ProteinLength	106-263 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 protease degrades soluble and insoluble elastin. This gene may play a role in aneurysm formation and mutations in this gene are associated with lung function and chronic obstructive pulmonary disease (COPD). This gene is part of a cluster of MMP genes on chromosome 11.
Bio-activity	> 40 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-O

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	C2H5 (Biomol) as substrate.
Molecular Mass	17.6 kDa
AASequence	M-GPVWRKHYITYRINNYTPDMNREDVDYAIRKAFQVWSNVTPLKFS160170180190 200KINTGMADILVVFARGAHGDFHAFDGKGGILAHAFGPGSGIGGDAHFDED21021 0220230240EFWTTHSGGTNLFLTAVHEIGHSLGLGHSSDPKAVMFPTYKYVDINTFR L250SADDIRGIQSLYG
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, ($\epsilon_{280} = 26930 \text{ M}^{-1}\text{cm}^{-1}$ calculated).
Shipping	Dry Ice
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	MMP12 matrix metalloproteinase 12 (macrophage elastase) [Homo sapiens (human)]
Official Symbol	MMP12

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Synonyms	MMP12; matrix metalloproteinase 12 (macrophage elastase); matrix metalloproteinase 12 (macrophage elastase); macrophage metalloelastase; HME; macrophage elastase; matrix metalloproteinase-12; ME; MME; MMP-12; MGC138506;
Gene ID	4321
mRNA Refseq	NM_002426
Protein Refseq	NP_002417
MIM	601046
UniProt ID	P39900

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