Active Recombinant Human MMP13 protein, mutation F175D, No Activation Required

Cat. No. MMP13-01H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human MMP13 Protein (residues 104-268, F175D mutant) without tag was expressed in E. coli.
Species	Human
Source	E.coli
ProteinLength	104-268
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 cleaves type II collagen more efficiently than types I and III. It may be involved in articular cartilage turnover and cartilage pathophysiology associated with osteoarthritis. Mutations in this gene are associated with metaphyseal anadysplasia. 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-OC2H5 (Biomol) as substrate.

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Molecular Mass	18.6 kDa
AA Sequence	YNVFPRTLKWSKMNLTYRIVNYTPDMTHSEVEKAFKKAFKVWSDVTPLNFTRLHDGI ADIMISFGIKEHGDDYPFDGPSGLLAHAFPPGPNYGGDAHFDDDETWTSSSKGYNL FLVAAHEFGHSLGLDHSKDPGALMFPIYTYTGKSHFMLPDDDVQGIQSLYGP
Purity	> 95% by SDS-PAGE. The protein is observed, in denaturing conditions, as a single band migrating at a molecular weight of about 18.4 kDa.
Usage	Enzyme kinetic studies, cleavage of target substrates and screening of inhibitors.
Storage	-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 (ε280 = 29910 M-1cm-1 calculated).
Storage Buffer	Tris 20 mM pH 7.2, CaCl2 10 mM, ZnCl2 0.1 mM, NaCl 0.3 M, acetohydroxamic acid (AHA) 0.5 M.

GENE INFORMATION

Gene Name	MMP13 matrix metallopeptidase 13 [Homo sapiens (human)]
Official Symbol	MMP13
Synonyms	MMP13; matrix metallopeptidase 13; CLG3; MDST; MANDP1; MMP-13; collagenase 3; matrix metalloproteinase 13 (collagenase 3); EC 3.4.24.-
Gene ID	4322

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mRNA Refseq	NM_002427
Protein Refseq	NP_002418
MIM	600108
UniProt ID	P45452

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