Active Recombinant Human MMP20 protein, Catalytic Domain No Activation Required

Cat. No. MMP20-162H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human matrix metalloproteinase-20 (MMP-20, Enamelysin, enamel metalloproteinase) catalytic domain cloned from human cDNA was expressed in*E. coli*. The enzyme consists of the catalytic domain of human MMP-20 (residues 113-271. Residues numbers are based on the unprocessed precursor). Swiss prot. accession: O60882. MW=17.5kDa calculated.
Species	Human
Source	E.coli
ProteinLength	113-271 a.a.
Description	Matrix metalloproteinase-20 is an enzyme that in humans is encoded by the MMP20 gene. 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. The protein encoded by this gene degrades amelogenin, the major protein component of dental enamel matrix, and so the protein is thought to play a role in tooth enamel formation. A mutation in this gene, which alters the normal splice pattern and results in premature termination of the encoded protein, has been associated with Amelogenesis imperfecta.

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Purity	> 95% by SDS-PAGE. In an SDS-PAGE gel, the enzyme runs as a monomer (<20kDa).
Specific Activity	>50U/μg. 1U=100pmol/min at 25ºC using a colorimetric assay with thiopeptolide Ac-Pro-Leu-Gly-[2-mercapto-4-methyl-pentanoyl]-Leu-Gly-OC2H5 (Biomol).
Usage	Study enzyme kinetics, cleave target substrates and screen of inhibitors.
Supplied As	0.2mg/ml in 20mM Tris, pH7.2, 10mM CaCl2, 0.1mM ZnCl2, 0.3M NaCl, 0.5M Acetohydroxamic Acid (AHA). The concentration is calculated by the analysis of the absorbance at 280nm (e280=31720M-1cm-1 calculated).
Characteristics	Under above described conditions, to avoid precipitation or protein dimerization, the product can be concentrated to a maximum of 100mM.
Storage	-80ºC. It is recommended that thawing and dilution of the enzyme be done in ice and within as short a time as possible before start of the assay. After initial defrost, aliquot product into individual tubes and refreeze at -80ºC. Avoid repeated freeze/defrost cycles.

GENE INFORMATION

Gene Name	MMP20 matrix metallopeptidase 20 [Homo sapiens]
Synonyms	MMP20; matrix metallopeptidase 20; Enamel metalloproteinase; matrix metalloproteinase 20; AI2A2; MMP-20; enamelysin; enamel metalloproteinase; matrix metalloproteinase 20 (enamelysin); Matrix metalloproteinase-20; EC 3.4.24.-; Enamelysin
Gene ID	9313

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mRNA Refseq	NM_004771
Protein Refseq	NP_004762
MIM	604629
UniProt ID	O60882
Chromosome Location	11q22.3
Function	calcium ion binding; metalloendopeptidase activity; peptidase activity; protein binding; zinc ion binding

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