Active Recombinant Human MMP9

Cat. No. MMP9-166H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Active recombinant matrix metalloproteinase-9 (MMP-9, gelatinase B, 92 kDa type IV collagenase) cloned from human cDNA. The enzyme consists of residues Phe107-Pro449 (NM_004994), which comprises the catalytic/fibronectin domain of human MMP-9, with a C-terminal purification tag. This represents a naturally-occurring active form of MMP-9 which lacks the C-terminal hemopexin domain. Activity toward its targets, such as gelatin, casein, or peptide substrates, is unaffected.
Species	Human
Source	E.coli
ProteinLength	107-449 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. The enzyme encoded by this gene degrades type IV and V collagens. Studies in rhesus monkeys suggest that the enzyme is involved in IL-8-induced mobilization of hematopoietic progenitor cells from bone marrow, and murine studies suggest a role in tumor-associated tissue remodeling.
Form	Liquid. In 50mM TRIS, pH 7.5, containing 5mM calcium chloride, 300mM sodium

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	chloride, 20μM zinc chloride, 0.5% Brij-35 and 30% glycerol.
Bio-activity	XX U/μg. One U=100pmol/min at 37°C using the colorimetric thiopeptolide Ac-Pro-Leu-Gly-S-Leu-Leu-Gly-OEt as substrate. Preincubation of MMP-9 catalytic domain at 1.3 nM with the broad-spectrum inhibitor GM6001 at 30nM for 1 hour inhibits enzymatic a ctivity by 97%.
Molecular Mass	39 kDa
Purity	≥95% (SDS-PAGE)
Applications	Study enzyme kinetics, cleave target substrates, and screen for inhibitors.
Storage	-80°C
Concentration	0.5μg/μl

GENE INFORMATION

Gene Name	MMP9 matrix metallopeptidase 9 (gelatinase B, 92kDa gelatinase, 92kDa type IV collagenase) [Homo sapiens (human)]
Official Symbol	MMP9
Synonyms	MMP9; GELB; CLG4B; MMP-9; MANDP2; matrix metallopeptidase 9 (gelatinase B, 92kDa gelatinase, 92kDa type IV collagenase); matrix metalloproteinase-9; 92 kDa gelatinase; type V collagenase; macrophage gelatinase; 92 kDa type IV collagenase; matrix metalloproteinase 9 (gelatinase B, 92kDa gelatinase, 92kDa type IV collagenase); EC 3.4.24.35
Gene ID	4318

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mRNA Refseq	NM_004994
Protein Refseq	NP_004985
MIM	120361
UniProt ID	P14780
Chromosome Location	20q11.2-q13.1
Pathway	AGE/RAGE pathway; Angiogenesis; Bladder cancer
Function	collagen binding; metalloendopeptidase activity; protein binding

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