

## Active Recombinant Human MMP9 Protein, T7 tagged, No Activation Required

Cat. No. MMP9-28H Lot. No. (See product label)

### SPECIFICATION

**Product Overview** Recombinant Matrix Metalloproteinase-9 (MMP-9, 92 kDa type IV collagenase, 92 kDa gelatinase, Gelatinase B, GELB) catalytic domain with fibronectin domains cloned from human cDNA, expressed in E. coli. The recombinant enzyme consists of the catalytic domain of human MMP-9 (residues 112-445, UniProtKB accession P14780) with a N-term T7 tag.

**Species** Human

**Source** E.coli

**ProteinLength** 112-445 aa

**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.

**Bio-activity** > 10 U/μg. Activity described as U=100 pmol/min at 25 centigrade using a colorimetri

 Tel: 1-631-559-9269 1-516-512-3133

 Email: [info@creative-biomart.com](mailto:info@creative-biomart.com)  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

|                       |   |
|-----------------------|---|
|                       | c assay with thiopeptide Ac-Pro-Leu-Gly-[2-mercapto-4-methyl-pentanoyl]-Leu-Gly-O C2H5 (Biomol) as substrate.   |
| <b>Molecular Mass</b> | 37.7 kDa  |
| <b>AASequence</b>     | MGRGSEF-GDLKWHHHNITYWIQNYSEDLPRVIDDAFARAFALWSA16017018019<br>0200VTPLTFTRVYSRDADIVIQFGVAEHGDPFDGKDGLLAHAFPPGPGIQQ2102<br>20230240250DAHFDDELWLSLKGKVVVPTFRGNADGAACHFPFIFEGRSYSACTTD<br>GRS260270280290300DGLPWCSTTANYDTDDRFGFCPSERLYTQDGNADGKPCQ<br>FPFIFQGQSYS310320330340350ACTTDGRSDGYRWCATTANYDRDKLFGFCPTR<br>ADSTVMGGNSAGELCVFP360370380390400FTFLGKEYSTCTSEGRGDGRLWCAT<br>TSNFSDSKKWGFPCPDQGYSLFLVAA410420430440HEFGHALGLDHSSVPEALMYP<br>MYRFTEGPPLHKDDVNGIRHLYGP |
| <b>Purity</b>         | > 95% by SDS-PAGE. The protein is observed, in denaturing conditions, as a single band migrating at a molecular weight between 35.0 and 45.0 kDa.   |
| <b>Applications</b>   | Enzyme kinetic studies, cleavage of target substrates and screening of inhibitors.  |
| <b>Storage</b>        | At -80 centigrade. After initial defrost, aliquot the product into individual tubes and refreeze at -80 centigrade. Avoid repeated freeze/thaw cycles.  |
| <b>Concentration</b>  | 0.15 mg/mL. The concentration is calculated by the analysis of the absorbance at 280 nm ( $\epsilon_{280} = 67100 \text{ M}^{-1}\text{cm}^{-1}$ calculated).  |
| <b>Shipping</b>       | Dry Ice   |
| <b>Storage Buffer</b> | Tris 20 mM pH 7.2, CaCl <sub>2</sub> 5 mM, ZnCl <sub>2</sub> 0.1 mM, NaCl 0.3 M, acetohydroxamic acid (AHA) 0.5 M, glycerol 10%, Brij35 0.05%.  |

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## GENE INFORMATION

|                        |   |
|------------------------|---|
| <b>Gene Name</b>       | MMP9 matrix metalloproteinase 9 (gelatinase B, 92kDa gelatinase, 92kDa type IV collagenase) [ Homo sapiens (human) ]  |
| <b>Official Symbol</b> | MMP9  |
| <b>Synonyms</b>        | MMP9; matrix metalloproteinase 9 (gelatinase B, 92kDa gelatinase, 92kDa type IV collagenase); CLG4B, matrix metalloproteinase 9 (gelatinase B, 92kDa gelatinase, 92kDa type IV collagenase) , matrix metalloproteinase 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); GELB; CLG4B; MMP-9; MANDP2; |
| <b>Gene ID</b>         | 4318  |
| <b>mRNA Refseq</b>     | NM_004994   |
| <b>Protein Refseq</b>  | NP_004985   |
| <b>MIM</b>             | 120361  |
| <b>UniProt ID</b>      | P14780  |

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