# Active Recombinant Human MMP2 protein

**Cat. No.** MMP2-150H **Lot. No.** (See product label)

## SPECIFICATION

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| **Product Overview** | Recombinant Human MMP2(Tyr110-Asp452) was expressed in Yeast. |
| **Species** | Human |
| **Source** | Yeast |
| **ProteinLength** | 110-452 a.a. |
| **Description** | This gene is a member of the matrix metalloproteinase (MMP) gene family, that are zinc-dependent enzymes capable of cleaving components of the extracellular matrix and molecules involved in signal transduction. The protein encoded by this gene is a gelatinase A, type IV collagenase, that contains three fibronectin type II repeats in its catalytic site that allow binding of denatured type IV and V collagen and elastin. Unlike most MMP family members, activation of this protein can occur on the cell membrane. This enzyme can be activated extracellularly by proteases, or, intracellulary by its S-glutathiolation with no requirement for proteolytical removal of the pro-domain. This protein is thought to be involved in multiple pathways including roles in the nervous system, endometrial menstrual breakdown, regulation of vascularization, and metastasis. Mutations in this gene have been associated with Winchester syndrome and Nodulosis-Arthropathy-Osteolysis (NAO) syndrome. Alternative splicing results in multiple transcript variants encoding different isoforms. |
| **Form** | Liquid. In 50mM TRIS-HCl, pH 7.5, containing 300mM NaCl, 5mM CaCl2, 20μM ZnCl2, 0.05% Brij-35 and 20% glycerol. |

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

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| **Bio-activity** | ≥25 U/μg |
| **Molecular Mass** | ~40kDa |
| **Purity** | ≥90% (SDS-PAGE) |
| **Unit Definition** | One U=100 pmol/min at 37 centigrade using the colorimetric thiopeptolide Ac-Pro-Leu-Gly-S-Leu-Leu-Gly-Oet as substrate. |
| **Applications** | Useful tool to study enzyme kinetics, cleave target substrates, and screen for inhibitors. |
| **Stability** | The enzyme is stable on ice for at least several hours. However, it is recommended that thawing and dilution of the enzyme be done within as short a time as possible before start of the assay. After initial defrost, aliquot product into individual tubes and refreeze at -70 centigrade. Avoid repeated freeze/defrost cycles.NOTE: When stored under the above conditions, this enzyme is stable at the concentration supplied, in its current storage buffer. Procedures such as dilution of the enzyme followed by refreezing could lead to loss of activity. |
| **Storage** | Long Term Storage: -80 centigrade |

## GENE INFORMATION

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| **Gene Name** | MMP2 matrix metallopeptidase 2 (gelatinase A, 72kDa gelatinase, 72kDa type IV collagenase) [ Homo sapiens ] |
| **Official Symbol** | MMP2 |
| **Synonyms** | MMP2; matrix metallopeptidase 2 (gelatinase A, 72kDa gelatinase, 72kDa type IV collagenase); CLG4, CLG4A, matrix metalloproteinase 2 (gelatinase A, 72kD |

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| | gelatinase, 72kD type IV collagenase) , matrix metalloproteinase 2 (gelatinase A, 72kDa gelatinase, 72kDa type IV collagenase); 72 kDa type IV collagenase; TBE 1; MMP-2; gelatinase A; 72 kDa gelatinase; collagenase type IV-A; neutrophil gelatinase; matrix metalloproteinase-2; matrix metalloproteinase-II; CLG4; MONA; CLG4A; TBE-1; MMP-II; |
| **Gene ID** | 4313 |
| **mRNA Refseq** | NM_004530 |
| **Protein Refseq** | NP_004521 |
| **MIM** | 120360 |
| **UniProt ID** | P08253 |
| **Chromosome Location** | 16q13-q21 |
| **Pathway** | ATF-2 transcription factor network, organism-specific biosystem; Activation of Matrix Metalloproteinases, organism-specific biosystem; Angiopoietin receptor Tie2-mediated signaling, organism-specific biosystem; Bladder cancer, organism-specific biosystem; Bladder cancer, conserved biosystem; Degradation of the extracellular matrix, organism-specific biosystem; Diabetes pathways, organism-specific biosystem; |
| **Function** | metal ion binding; metalloendopeptidase activity; peptidase activity; zinc ion binding; |

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