PRODUCT DATA SHEET

MMP-9 (catalytic domain) (human), (recombinant, *E. coli*)

BML-SE360

Product Number/Sizes

BML-SE360-0010	10 µg

- Naturally-occurring active form of MMP-9
- High purity
- High activity

Product Details

ALTERNATIVE NAME:	Matrix metalloproteinase 9, Gelatinase B, 92 kDa Type IV collagenase
MW:	39 kDa
SOURCE:	Produced in *E. coli*. Active recombinant matrix metalloproteinase-9 (MMP-9, gelatinase B, 92 kDa type IV collagenase) cloned from human cDNA. The enzyme consists of residues Phe^{107}-Pro^{449} (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.
UNIPROT ID:	P14780
FORMULATION:	Liquid. In 50mM TRIS, pH 7.5, containing 1mM calcium chloride, 300mM sodium chloride, 5µM zinc chloride, 0.1% Brij-35 and 15% glycerol.
PURITY:	≥95% (SDS-PAGE)
PURITY DETAIL:	Purified by multi-step chromatography.
ACTIVITY:	Yes
SPECIFIC ACTIVITY:	≥500 pmol/min/ug at 37°C using the colorimetric thiopeptolide Ac-Pro-Leu-Gly-S-Leu-Leu-Gly-OEt (100 µM; Prod. No. BML-P125) as substrate.
APPLICATION NOTES:	Useful tool to study enzyme kinetics, cleave target substrates, and screen for inhibitors.
SHIPPING:	Dry Ice
LONG TERM STORAGE:	-80°C
HANDLING:	Avoid freeze/thaw cycles. After opening, prepare aliquots and store at -80°C.
SCIENTIFIC BACKGROUND:	Matrix metallopeptidase 9 (MMP-9) belongs to a class of enzymes that belong to the zinc-metalloproteinase family involved in the breakdown of extracellular matrix in normal physiological processes, such as embryonic development, reproduction, angiogenesis, bone development, wound healing, cell migration, learning and memory. Its also associated with numerous pathological processes, including cancer, immunologic and cardiovascular diseases.
REGULATORY STATUS:	RUO - Research Use Only

GLOBAL HEADQUARTERS

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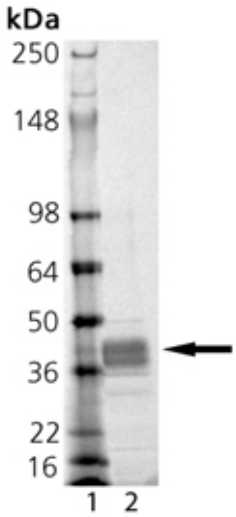

SDS-PAGE Analysis: Lane 1: MW Marker, Lane 2: 1µg MMP-9 (catalytic domain) (human), (recombinant, E. coli).

Product Literature References

Mechanical strain modulates extracellular matrix degradation and byproducts in an isoform-specific manner A. Yeganegi, et al. Biochim. Biophys. Acta Gen. Subj. **1867** 130286 (2023)

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Cell-specific expression of the transcriptional regulator RHAMM provides a timing mechanism that controls appropriate wound re-epithelialization C. Tolg, et al. J. Biol. Chem. **295** 5427 (2020)

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dCas9-mediated transcriptional activation of tissue inhibitor of metalloproteinases T. Duellman, et al. Metalloproteinases Med. **4** 63 (2017)

Toxicological effects of NCKU-21, a phenanthrene derivative, on cell growth and migration of A549 and CL1-5 human lung adenocarcinoma cells H.F. Liao, et al. PLoS One **12** e28945763 (2017)

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Directed evolution of protease beacons that enable sensitive detection of endogenous MT1-MMP activity in tumor cell lines A. Jabaiah, et al. Chem. Biol. **18** 392 (2011)

*IL-1*b *Is Overexpressed and Aberrantly Regulated in Corticosteroid Nonresponders with Autoimmune Inner Ear Disease* S. Pathak, et al. J. Immunol. **186** 1870 (2011)

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