LD Biopharma, Inc.
9924 Mesa Rim Road Suite B
San Diego, CA 92121
Tel: 858-876-8266
http://www.ldbiopharma.com

- PRODUCT DATA SHEET -

Name of Product: Recombinant Human Pro-MMP3 Protein
Catalog Number: hRP-1333
Manufacturer: LD Biopharma, Inc.

Introduction

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 pro-proteins, which are activated when cleaved by extracellular proteinases. Human Stromelysin-1 (MMP3) gene encodes an enzyme which degrades fibronectin, laminin, collagens III, IV, IX, and X, and cartilage proteoglycans. The enzyme is thought to be involved in wound repair, progression of atherosclerosis, and tumor initiation. The gene is part of a cluster of MMP genes which localize to chromosome 11q22.3.

Full-length human pro-MMP3 cDNA (18 – 477 aa, derived from BC074815) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein is expressed in E.coli as inclusion bodies. The final product was refolded using our unique "temperature shift inclusion body refolding" technology and chromatographically purified.

Gene Symbol:	MMP3 (CHDS6; SL-1; STMY; STR1)
Accession Number:	NP_002413.1
Species:	Human
Size:	25 µg / Vial
Composition:	0.50 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, arginine, DTT and Glycerol.
Storage:	In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

Key References

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Xu,H., et al., *Identification of GPR65, a novel regulator of matrix metalloproteinases using high through-put screening.* Biochem. Biophys. Res. Commun. 436 (1), 96-103 (2013)

Chambers,M., et al., *IL-4 inhibition of IL-1 induced Matrix metalloproteinase-3 (MMP-3) expression in human fibroblasts involves decreased AP-1 activation via negative crosstalk involving of Jun N-terminal kinase (JNK).* Exp. Cell Res. 319 (10), 1398-1408 (2013)

Gao,R., et al., *Heterogeneous nuclear ribonucleoprotein K (hnRNP-K) promotes tumor metastasis by induction of genes involved in extracellular matrix, cell movement, and angiogenesis*. J. Biol. Chem. 288 (21), 15046-15056 (2013)

Applications

1. May be used for in vitro pro-MMP3 mediated extracellular matrix protein signal regulation study for various cell differentiation regulation with this protein as either coating matrix protein or soluble factor.
2. May be used as MMP3 protein-protein interaction assay.
3. As enzymatic substrate for various proteases.
4. As potential cancer diagnostic biomarker protein.
5. As antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHHENLYFQGGEFYPLDGAARGEDTSMNLVQKYLENYYDLKKDVKQFV
RRKDSGPVVKKIREMQKFLGLEVTGKLDSDTLEVMRKPRCGVPDVGHFRTFPGIPKWRKTHLTY
RIVNYTPDLPKDAVDSAVEKALKVWEEVTPLTFSRLYEGEADIMISFAVREHGDFYPFDGPGNV
LAHAYAPGPGINGDAHFDDDEQWTKDTTGTNLFLVAAHEIGHSLGLFHSANTEALMYPLYHSLT
DLTRFRLSQDDINGIQSLYGPPPDSPETPLVPTEPVPPEPGTPANCDPALSFDAVSTLRGEILI
FKDRHFWRKSLRKLEPELHLISSFWPSLPSGVDAAYEVTSKDLVFIFKGNQFWAIRGNEVRAGY
PRGIHTLGFPPTVRKIDAAISDKEKNKTYFFVEDKYWRFDEKRNSMEPGFPKQIAEDFPGIDSK
IDAVFEEFGFFYFFTGSSQLEFDPNAKKVTHTLKSNSWLNC