



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human MMP1 Protein
Catalog Number: hRP-1220
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 proproteins which are activated when cleaved by extracellular proteinases. Human MMP1 gene encodes a secreted enzyme which breaks down the interstitial collagens, types I, II, and III. The gene is part of a cluster of MMP genes, which localize to chromosome 11q22.3. Alternative splicing results in multiple transcript variants.

Full-length human interstitial collagenase domain (MMP1) cDNA (100 – 469 aa, derived from BC013875) 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: MMP1 (CLG; CLGN)
Accession Number: NP_002412
Species: Human
Size: 20 µg / Vial
Composition: 0.40 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.



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Key References

Tahara,H., et al., *Transforming growth factor-alpha activates pancreatic stellate cells and may be involved in matrix metalloproteinase-1 upregulation.* Lab. Invest. 93 (6), 720-732 (2013)

Saarinen,J., et al., *Activation of human interstitial procollagenase through direct cleavage of the Leu83-Thr84 bond by mast cell chymase.* J. Biol. Chem. 269 (27), 18134-18140 (1994)

Ozden,F., *Expression of MMP-1, MMP-9 and TIMP-2 in prostate carcinoma and their influence on prognosis and survival.* J. Cancer Res. Clin. Oncol. 139 (8), 1373-1382 (2013)

Applications

1. May be used for in vitro activated MMP1 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 MMP1 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

MASMTGGQQMGRGHHHHHHENLYFQGGEFFVLTEGNPRWEQTHLTYRIENYTPDLPRADVDAI
EKAFQLWSNVTPLTFTKVSEGGQADIMISFVRGDHRDNSPFDGPGGNLAHAFQPGPGIGGDAHFD
EDERWTNNFREYNLHRVAAHELGHSLGLSHSTDIGALMYPSTYFSGDVQLAQDDIDGIQAIYGR
SQNPVQPIGPQTPKACDSKLTFDAITTIRGEVMFFKDRFYMRNPFYPEVELNFI SVFWPQLPN
GLEAAYEFADRDEVRFKGNKYWAVQGQNVLHGYPKDIYSSFGFPRTVKHIDAALSEENTGKTY
FFVANKYWRYDEYKRSMDPGYPKMIAHDFPGIGHKVDVFMKDGFFYFFHGTQYKFDPKTKRI
LTLQKANSWFNCRKN