

Human MMP-3 Protein

Catalog Number: 10467-HNAE



Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

CHDS6; MMP-3; SL-1; STMY; STMY1; STR1

Protein Construction:

A DNA sequence encoding the human MMP3 (AAA36321.1) N-terminal fragment (Tyr 18-Thr 272) was expressed and purified.

Source: Human

Expression Host: E. coli

QC Testing

Purity: ≥ 90 % as determined by SDS-PAGE. ≥ 90 % as determined by SEC-HPLC.

Bio Activity:

Measured by its ability to cleave the fluorogenic peptide substrate, Mca-RPKPVE-Nva-WR-K(Dnp)-NH₂, AnaSpec, Catalog # 27114. The specific activity is >300 pmoles/min/μg. (Activation description: The proenzyme needs to be activated by Chymotrypsin for an activated form)

Endotoxin:

Please contact us for more information.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Met 1

Molecular Mass:

The recombinant human MMP3 consisting of 256 amino acids and has a calculated molecular mass of 29 KDa. It migrates as an approximately 34 KDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 50mM Tris, 10mM CaCl₂, 1uM ZnCl₂, 50mM NaCl, 0.5% Brij35, pH 7.0

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

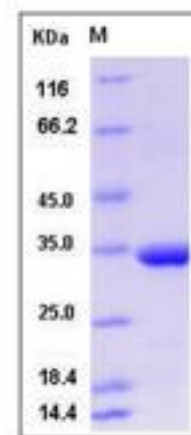
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Matrix metalloproteinase 3 (abbreviated as MMP3) is also known as stromelysin 1 and progelatinase. MMP3 is a member of the matrix metalloproteinase (MMP) family whose members are involved in the breakdown of extracellular matrix in normal physiological processes, such as embryonic development, reproduction, tissue remodeling, and disease processes including arthritis and metastasis. As a secreted zinc-dependent endopeptidase, MMP3 exerts its functions mainly in extracellular matrix. This protein is activated by two major endogenous inhibitors: alpha2-macroglobulin and tissue inhibitors of metalloproteinases (TIMPs). MMP3 plays a central role in degrading collagen types II, III, IV, IX, and X, proteoglycans, fibronectin, laminin, and elastin. In addition, MMP3 can also activate other MMPs such as MMP1, MMP7, and MMP9, rendering MMP3 crucial in connective tissue remodeling. Dysregulation of MMPs has been implicated in many diseases including arthritis, chronic ulcers, encephalomyelitis and cancer. Synthetic or natural inhibitors of MMPs result in inhibition of metastasis, while up-regulation of MMPs led to enhanced cancer cell invasion.

References

1. Sternlicht MD, *et al.* 1999, The stromal proteinase MMP3/stromelysin-1 promotes mammary carcinogenesis. *Cell*. 98(2): 137-46.
2. Yoon S, *et al.* (1999) Genetic analysis of MMP3, MMP9, and PAI-1 in Finnish patients with abdominal aortic or intracranial aneurysms. *Biochem Biophys Res Commun*. 265(2): 563-8.
3. Biondi ML, *et al.* (2000) MMP1 and MMP3 polymorphisms in promoter regions and cancer. *Clin Chem*. 46(12): 2023-4.

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