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Datasheet for ABIN7317834 **MMP1 Protein (His tag)**

Overview

Quantity:	100 µg
Target:	MMP1
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Biological Activity:	Active
Purification tag / Conjugate:	This MMP1 protein is labelled with His tag.

Product Details

Purpose:	Recombinant Human MMP1 Protein (His Tag)(Active)
Sequence:	Met 1-Asn 469
Characteristics:	A DNA sequence encoding the pro form of human MMP1 enzyme (NP_002412.1) precursor (Met 1-Asn 469) was expressed with a C-terminal polyhistidine tag.
Purity:	> 96 % as determined by reducing SDS-PAGE.
Endotoxin Level:	< 1.0 EU per µg as determined by the LAL method.
Biological Activity Comment:	Measured by its ability to cleave the fluorogenic peptide substrate, McaPLGL-Dpa-AR-NH ₂ , R&D System, Cat#ES010. The specific activity is >400 pmoles/min/µg(Activation description: The proenzyme needs to be activated by APMA for an activated form)

Target Details

Target:	MMP1
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Target Details

Alternative Name: MMP1 ([MMP1 Products](#))

Background: MMP1, also known as MMP-1, contains 4 hemopexin-like domains and is a member of the matrix metalloproteinase (MMP) family. Matrix metalloproteases, also called matrixins, are zinc-dependent endopeptidases that are the major proteases involved in ECM degradation. MMPs are capable of degrading a wide range of extracellular molecules and a number of bioactive molecules. MMP activity is regulated by two major endogenous inhibitors: alpha2-macroglobulin and tissue inhibitors of metalloproteases (TIMPs). MMPs play a central role in cell proliferation, migration, differentiation, angiogenesis, apoptosis and host defences. Dysregulation of MMPs has been implicated in many diseases including arthritis, chronic ulcers, encephalomyelitis and cancer. Tumour metastasis is a multistep process involving the dissemination of tumor cells from the primary tumor to secondaries at a distant organ or tissue. One of the first steps in metastasis is the degradation of the basement membrane, a process in which MMPs have been implicated. MMPs are secreted by tumor cells themselves or by surrounding stromal cells stimulated by the nearby tumor. Numerous studies have linked altered MMP expression in different human cancers with poor disease prognosis. MMP-1, -2, -3, -7, -9, -13 and -14 all have elevated expression in primary tumors and/or metastases. MMP-1 cleaves collagens of types I, II, and III at one site in the helical domain. It also cleaves collagens of types VII and X. In case of HIV infection, MMP1 interacts and cleaves the secreted viral Tat protein, leading to a decrease in neuronal Tat's mediated neurotoxicity.

Synonym: Interstitial Collagenase, Fibroblast Collagenase, Matrix Metalloproteinase-1, MMP-1, MMP1, CLG

NCBI Accession: [NP_002412](#)

Application Details

Restrictions: For Research Use only

Handling

Format: Lyophilized

Reconstitution: Please refer to the printed manual for detailed information.

Buffer: Lyophilized from sterile 25 mM MES, 10 mM CaCl₂, 150 mM NaCl, 0.05 % Brij 35, pH 5.5

Storage: 4 °C, -20 °C, -80 °C

Storage Comment: Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted

samples are stable at $< -20^{\circ}\text{C}$ for 3 months.