



Recombinant Human MMP-1

20150227BB



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no.:	100-419S
Size:	2 µg
Lot. No.:	According to product label

Scientific Background

Gene-ID (NCBI):	4312
Synonyms:	Matrix metalloproteinase-1, fibroblast collagenase, interstitial collagenase

Matrix metalloproteinases (MMPs) are a family of endoproteases that require zinc and calcium for expressing catalytic activity. These enzymes play a central role in the maintenance and remodeling of the extracellular matrix. Elevated expression of their activity, caused either by up-regulation of their expression or down-regulation of their cognate inhibitors, has been implicated in various degenerative disorders, including arthritis, cardiovascular disease, skeletal growth-plate disorders, and cancer metastasis. MMP-1 is a secreted collagenase with specificity toward Type I, II, III, VII, and X collagens. Recombinant human MMP-1 is a 42.7 kDa protein containing the entire catalytic N-terminal domain and the C-terminal domain which is involved in substrate specificity and in binding TIMP-1.

Sequence

```
MFVLTEGNPR WEQTHLTYRI ENYTPDLPRD DVDHAIEKAF
QLWSNVTPLT FTKVSEGOAD IMISFVRGDH RDNSPFDGPG
GNLAHAFQPG PGIGGDAHFD EDERWTNNFR EYNLHRVAAH
ELGHSLSGLSH STDIGALMYP SYTFSGDVQL AQDDIDGIQA
IYGRSQNPVQ PIGPQTPKAC DSKLTFDAIT TIRGEVMFFK
DRFYMRTNPF YPEVELNFIS VFWPQLPNGL EAAYEFADRD
EVRFFKGNKY WAVQGQNVLH GYPKDIYSSF GFPRTVKHID
AALSEENTGK TYFFVANKYW RYDEYKRSMD PGYPKMHAD
FPGIGHKVDA VFMKDGFFYF FHGTRQYKFD PKTKRILTLQ
KANSWFNCRK N
```

Database References

Protein RefSeq:	NP_002412.1
Uniprot ID:	P03956
mRNA RefSeq:	NM_002421.3

Product Specifications

Expressed in	E. coli
Purity	> 90% by SDS-PAGE & HPLC analysis
Endotoxin level	< 0.1 ng /µg of protein (<1EU/µg).
Formulation	lyophilized
Length (aa):	371
MW:	42.7 kDa

Biological Activity: MMP-1 activity was measured by its ability to cleave a chromogenic peptide MMP-1 substrate at room temperature. At an MMP-1 concentration of 2.5 µg/ml, 50% cleavage was achieved at an incubation time of approximately 25 minutes



AVOID REPEATED FREEZE AND THAW CYCLES!