Product Information Sheet

Product Name:	Human MMP-1 (Recombinant, Catalytic Domain)
Catalog Number:	AS-55575-1
Lot Number:	See label on the vial
Amount/size:	1 μg
Activity:	>100 Units/μg (Exact value is supplied with Certificate of Analysis)
Activity Definition:	One unit of MMP-1 hydrolyzes 1 picomole of 5-FAM-Pro-Leu-Ala-Nva-Dap (QXL™-520) -Ala-Arg-NH_2 (AnaSpec Cat# 60571) per minute at pH 7.5 at 25° C. ***Supplied enzyme does not require pre-activation***.
Source:	The sequence (Accession # NP_002412) corresponding to the catalytic domain (aa 106-261) of Human MMP-1 ***along with 6-his*** tag was expressed in *E. coli.* The recombinant human MMP-1 was purified from bacterial lysate and refolded using proprietary technique. The molecular weight of the recombinant Human MMP-1 Catalytic Domain is ~17.5 kDa.
Purity:	Greater than 95% as determined by SDS-PAGE.
Endotoxin (EU/μg):	Less than 1 EU per 1 μg of the protein as determined by Limulus Amebocyte Lysate (LAL) quantitative kinetic assay.
Storage:	The purified Human MMP-1 is supplied as sterile and frozen at 50 μg /ml in the following buffer: 300 mM NaCl, 20 mM Tris-HCl, 10 mM $CaCl_2$, 1 μM $ZnCl_2$, pH=7.5. Store at -80 ºC for up to 6 months. Avoid repeated freeze-thaw cycles.

Instructions:

Matrix metalloproteinases (MMP's) belong to a family of secreted or membrane-associated zinc endopeptidases capable of digesting extracellular matrix components (1,2). MMP-1 (collagenase-1) is involved in tumor development and metastasis and rheumatoid arthritis (3-5). It is proposed as a therapeutic target for these diseases. MMP-1 digests a broad range of substrates, including α-1 antitrypsin, myelin basic protein, collagen I, II, III, VII, VIII, casein, gelatin, and others (3-5).

Figure 1.

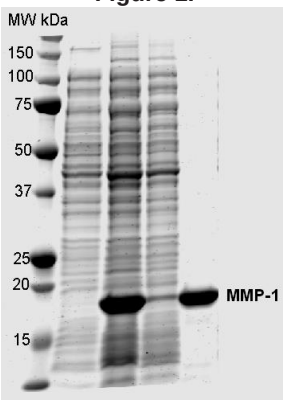

Figure 1. Recombinant Human MMP-1 (catalytic domain) on SDS-PAGE
The purified MMP-1 was loaded onto 10-20% Tris-HCl poly-acrylamide gel at 2 μg/well and resolved at 200V for 60 minutes.
Legend:
lane 1 is cell lysate of non-induced E.coli,
lane 2 is cell lysate of induced E.coli,
lane 3 is flow through after coupling to resin,
lane 4 is purified MMP-1.

References:
1. Woessner, J. et al. *J. Biol. Chem.* 263 (1988): 16918-16925
2. Woessner, J. *FASEB J.* 5 (1991): 2145-2154
3. Goldberg G. I. et al. Ann. N.Y. Acad. Sci. 580 (1990): 375-384
4. W. G. Stetler-Stevenson et al, Annu. Rev. Cell Biol. 9 (1993): 541-573
5. E. M. Gravallese et al. Arthritis Rheum. 34 (1991): 1076-1084

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