Product Information Sheet

Product Name:	Human MMP-12 (Recombinant, Catalytic Domain)
Catalog Number:	55525-10
Lot Number:	See label on the vial
Amount/size:	10 μg
Activity:	>100 Units/μg (Exact value is supplied with Certificate of Analysis)
Activity Definition:	One unit of MMP-12 hydrolyzes 1 picomole of 5-FAM-Arg-Pro-Lys-Pro-Val-GLu-Nva-Trp-Arg-Lys (QXL™ 520)-NH2 (AnaSpec Cat# 60580) per minute at pH 7.5 at 25° C. ***Supplied enzyme does not require pre-activation***.
Source:	The sequence (Accession # NP_002417) corresponding to the catalytic domain (aa 106-267) of Human MMP-12 ***along with 6-his tag*** was expressed in *E. coli.* The recombinant human MMP-12 was purified from bacterial lysate and refolded using proprietary technique. The molecular weight of the recombinant Human MMP-12 Catalytic Domain is 18 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-12 is supplied as sterile and frozen at 50 μg /ml in the following buffer: 150 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 (MMPs) belong to a family of secreted or membrane-associated zinc endopeptidases capable of digesting extracellular matrix components (1,2). MMP-12 (macrophage elastase) is involved in smoke-induced emphysema, tumor and other diseases (3,4). MMP-12 is secreted as a 54-kDa zymogen and becomes the mature 45-kDa active form after proteolytic cleavage. MMP-12 has a broad range of substrates, including α-1 proteinase inhibitor, α-2 antiplasmin, plasminogen activator inhibitor-2, collagen IV, laminin, fibronectin, elastin, but not interstitial collagens.

Figure 1.

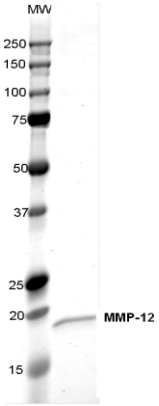

Figure 1. Recombinant Human MMP-12 (catalytic domain) on SDS-PAGE
The purified MMP-12 was loaded onto 10-20% Tris-HCl acrylaminde gel at 0.5 μg/well and resolved at 200V for 60 minutes. Protein markers and purified MMP-12 (18 kDa) are indicated.

References:
1. Woessner, J. et al. J. Biol. Chem. 263 (1988): 16918-16925
2. Woessner, J. FASEB J. 5 (1991): 2145-2154
3. Hautamaki, D. et al. Science 277 (1997): 2002-2004
4. Dong, Z. et al. Cell 88 (1997): 801-810

For Research Use Only.