



Product Information Sheet

Product Name:	Human MMP-12 (Recombinant, Catalytic Domain)
Catalog Number:	AS-55525-50
Size:	50 µg
Activity:	Provided on the label
Unit Definition:	One unit of MMP-12 hydrolyzes 1 picomole of QXL [®] 520-γ-Abu-P-Cha-Abu-Smc-HA-Dab(5 - FAM) - AK-NH ₂ (AnaSpec Cat.#AS-60581) per minute at pH 7.4 at 25° C. <i>Supplied enzyme does not require pre-activation.</i>
Purity:	Greater than 95% as determined by SDS-PAGE.
Storage:	Store at -80 °C. 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.

Recombinant human MMP-12 enzyme was expressed as catalytic domain (aa 106-267) along with 6-his tag 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. Its activity can be measured in FRET-based enzymatic assays (AnaSpec Cat.# AS71137, AS-71157). 10-20 ng of the enzyme is sufficient for FRET-based assay.

MMP-12 is stored in 150 mM NaCl, 20 mM Tris-HCl, 10 mM CaCl₂, 1 µM ZnCl₂, pH=7.5.

For Research Use Only.

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