



## Product Information Sheet

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Product Name:	Purified Human MMP-12
Catalog Number:	72010
Amount:	100 $\mu$ L, 10 $\mu$ g/mL
Activity (Unit/ $\mu$ g):	>28 Unit/ $\mu$ g
Unit definition:	One unit of protease hydrolyzes 1 picomole of QXL™ 520 - $\gamma$ - Abu - Pro - Cha - Abu - Smc - His - Ala - Dab(5 - FAM) - Ala - Lys - NH <sub>2</sub> (Smc=S - Methyl - L - cysteine) (AnaSpec Cat# 60581-01) per minute at pH 7.5 at 25° C.
Storage:	Store at -80°C. Avoid multiple thaw-freeze cycles.

### Instruction:

Matrix metalloproteinases (MMPs) belong to a family of secreted or membrane-associated zinc endopeptidases capable of digesting extracellular matrix components.<sup>1,2</sup> MMP-12 (macrophage elastase) is involved in smoke-induced emphysema<sup>3</sup>, tumor<sup>4</sup> and other diseases. 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  $\alpha$ -1 proteinase inhibitor,  $\alpha$ -2 antiplasmin, plasminogen activator inhibitor-2, collagen IV, laminin, fibronectin, elastin, but not interstitial collagens.

Human MMP-12 is purified from stimulated human fibroblasts and is essentially free of contaminating MMPs or TIMPs. Incubating with 1 mM APMA at 37°C for 1-2 hr will activate MMP-12. Its activity can be measured by FRET peptides (AnaSpec Cat#71137, Cat#71157). 10-20 ng of enzyme is sufficient for FRET-based assay.

### References

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