

Datasheet for ABIN1706069

## MMP12 ELISA Kit



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### Overview

Quantity:	96 tests
Target:	MMP12
Binding Specificity:	AA 17-470
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	62.5-4000 pg/mL
Minimum Detection Limit:	62.5 pg/mL
Application:	ELISA

### Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Human MMP-12
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin)
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: NSO Immunogen sequence: L17-C470
Specificity:	Expression system for standard: NSO Immunogen sequence: L17-C470
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.

## Product Details

Sensitivity:	<10pg/mL
Material not included:	Microplate reader in standard size. Automated plate washer. Adjustable pipettes and pipette tips. Multichannel pipettes are recommended in the condition of large amount of samples in the detection. Clean tubes and Eppendorf tubes. Washing buffer (neutral PBS or TBS). Preparation of 0.01M TBS: Add 1.2g Tris, 8.5g NaCl

## Target Details

Target:	MMP12
Alternative Name:	MMP12 ( <a href="#">MMP12 Products</a> )
Background:	<p>Protein Function: May be involved in tissue injury and remodeling. Has significant elastolytic activity. Can accept large and small amino acids at the P1' site, but has a preference for leucine. Aromatic or hydrophobic residues are preferred at the P1 site, with small hydrophobic residues (preferably alanine) occupying P3.</p> <p>Background: Matrix metalloproteinase-12(MMP12), also known as MME or ME, is an enzyme that in humans is encoded by the MMP12 gene. The gene is part of a cluster of MMP genes which localize to chromosome 11q22.2. It is thought that the protein encoded by this gene is cleaved at both ends to yield the active enzyme, but this processing has not been fully described. The enzyme degrades soluble and insoluble elastin. It may play a role in aneurysm formation and studies in mice suggest a role in the development of emphysema. This gene may involved in tissue injury and remodeling.</p> <p>Synonyms: Macrophage metalloelastase,MME,3.4.24.65,Macrophage elastase,ME,hME,Matrix metalloproteinase-12,MMP-12,MMP12,HME,</p> <p>Full Gene Name: Macrophage metalloelastase</p> <p>Cellular Localisation: Secreted, extracellular space, extracellular matrix.</p>
Gene ID:	4321
UniProt:	<a href="#">P39900</a>

## Application Details

Application Notes:	Before using Kit, spin tubes and bring down all components to bottom of tube. Duplicate well assay was recommended for both standard and sample testing.
Comment:	<p>Sequence similarities: Belongs to the peptidase M10A family.</p> <p>Tissue Specificity: Found in alveolar macrophages but not in peripheral blood monocytes.</p>

## Application Details

Plate:	Pre-coated
Protocol:	human MMP-12 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for MMP-12 has been precoated onto 96-well plates. Standards(NSO, L17-C470) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for MMP-12 is added subsequently and then followed by washing with PBS or TBS buffer. Avidin-Biotin-Peroxidase Complex was added and unbound conjugates were washed away with PBS or TBS buffer. HRP substrate TMB was used to visualize HRP enzymatic reaction. TMB was catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The density of yellow is proportional to the human MMP-12 amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 4000pg/mL, 2000pg/mL,1000pg/mL, 500pg/mL, 250pg/mL, 125pg/mL, 62.5pg/mL human MMP-12 standard solutions into the precoated 96-well plate. Add 0.1 mL of the sample diluent buffer into the control well (Zero well). Add 0.1 mL of each properly diluted sample of human cell culture supernates, serum or plasma(heparin) to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each human MMP-12 standard solution and each sample be measured in duplicate.
Assay Precision:	<ul style="list-style-type: none"><li>• Sample 1: n=16, Mean(pg/ml): 478, Standard deviation: 28.68, CV(%): 6</li><li>• Sample 2: n=16, Mean(pg/ml): 1512, Standard deviation: 84.7, CV(%): 5.6</li><li>• Sample 3: n=16, Mean(pg/ml): 2388, Standard deviation: 107.5, CV(%): 4.5,</li><li>• Sample 1: n=24, Mean(pg/ml): 526, Standard deviation: 37.9, CV(%): 7.2</li><li>• Sample 2: n=24, Mean(pg/ml): 1724, Standard deviation: 113.8, CV(%): 6.6</li><li>• Sample 3: n=24, Mean(pg/ml): 2653, Standard deviation: 143.3, CV(%): 5.4</li></ul>
Restrictions:	For Research Use only

## Handling

Handling Advice:	Avoid multiple freeze-thaw cycles.
Storage:	-20 °C,4 °C
Storage Comment:	Store at 4°C for 6 months, at -20°C for 12 months. Avoid multiple freeze-thaw cycles
Expiry Date:	12 months

## Publications

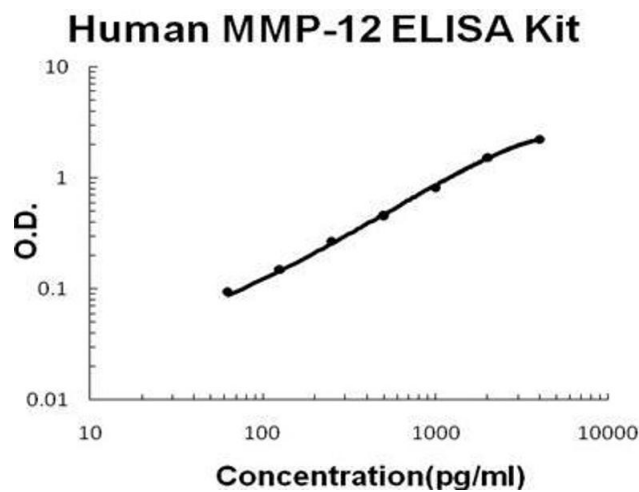
Product cited in:	Bchir, Nasr, Bouchet, Benzarti, Garrouch, Tabka, Susin, Chahed, Bauvois: "Concomitant elevations of MMP-9, NGAL, proMMP-9/NGAL and neutrophil elastase in serum of smokers
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with chronic obstructive pulmonary disease." in: **Journal of cellular and molecular medicine**, Vol. 21, Issue 7, pp. 1280-1291, (2018) ([PubMed](#)).

Narimiya, Wada, Kanzaki, Ishikawa, Tsuge, Yamaguchi, Nakamura: "Orthodontic tensile strain induces angiogenesis via type IV collagen degradation by matrix metalloproteinase-12." in: **Journal of periodontal research**, Vol. 52, Issue 5, pp. 842-852, (2018) ([PubMed](#)).

Kobayashi, Jokaji, Miyazawa-Hira, Takatsuka, Tanaka, Ooi, Nakamura, Kawashiri: "Elastin-derived peptides are involved in the processes of human temporomandibular disorder by inducing inflammatory responses in synovial cells." in: **Molecular medicine reports**, Vol. 16, Issue 3, pp. 3147-3154, (2018) ([PubMed](#)).

Images



**ELISA**

**Image 1.** Human MMP-12 PicoKine ELISA Kit standard curve