Datasheet for ABIN411327
MMP1 ELISA Kit

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Overview

Quantity:	96 tests
Target:	MMP1
Binding Specificity:	AA 20-469
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	156-10000 pg/mL
Minimum Detection Limit:	156 pg/mL
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Human MMP-1
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin)
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: NSO Immunogen sequence: F20-N469
Specificity:	Expression system for standard: NSO Immunogen sequence: F20-N469
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.

Product Details

Sensitivity:	<20pg/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:	MMP1
Alternative Name:	MMP1 (MMP1 Products)
Background:	Background: Matrix metalloproteinase-1(MMP-1) is also known as collagenase. Matrix metalloproteinases(MMPs) are zinc-dependent proteases that degrade extrMMP-1llular matrix proteins. The MMPs comprise a family of at least 20 proteolytic enzymes that play an essential role in tissue remodeling. Matrix metalloproteinase-1(MMP-1) plays an important role in the degradation of collagen in inflammatory diseases. MMP1(interstitial collagenase), MMP9(gelatinase B) and MMP12(macrophage elastase) are thought to be important in the development of emphysema. Smoking-induced MMP-1 might be important in the skin-ageing effects of tobacco smoking. The standard product used in this kit is human MMP-1 with the molecular mass of 51-53KDa. The detected MMP-1 includes zymogen and active enzyme. Synonyms: cDNA FLJ55228, highly similar to Interstitial collagenase (EC 3.4.24.7) , Full Gene Name: matrix metallopeptidase 1 (interstitial collagenase)
Gene ID:	4312
UniProt:	B4DN15

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.
Plate:	Pre-coated
Protocol:	human MMP-1 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for MMP-1 has been precoated onto 96-well plates. Standards(NSO, F20-N469) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for MMP-1 is added subsequently and then followed by washing with PBS or TBS buffer. Avidin-Biotin-Peroxidase Complex was

Application Details

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-1 amount of sample captured in plate.

Assay Procedure:	Aliquot 0.1 mL per well of the 10000pg/mL, 5000pg/mL, 2500pg/mL, 1250pg/mL, 625pg/mL, 312pg/mL, 156pg/mL human MMP-1 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-1 standard solution and each sample be measured in duplicate.
Assay Precision:	• Sample 1: n=16, Mean(pg/ml): 937, Standard deviation: 42.2, CV(%): 4.5 • Sample 2: n=16, Mean(pg/ml): 3127, Standard deviation: 159.5, CV(%): 5.1 • Sample 3: n=16, Mean(pg/ml): 5438, Standard deviation: 293.7, CV(%): 5.4, • Sample 1: n=24, Mean(pg/ml): 1259, Standard deviation: 74.3, CV(%): 5.9 • Sample 2: n=24, Mean(pg/ml): 3456, Standard deviation: 207.4, CV(%): 6 • Sample 3: n=24, Mean(pg/ml): 5862, Standard deviation: 393, CV(%): 6.7
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

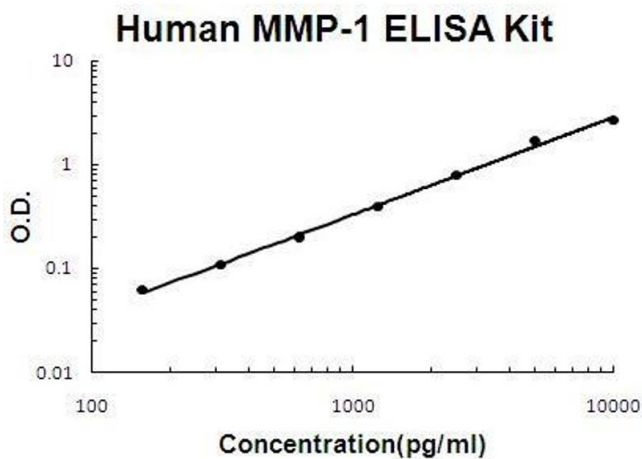|	
Product cited in:	Lei, Zeng, Lu, Ding, Xia, Kang, Tan, Gao, Kang, Cao, Zhou, Xiao, Chen, Huang: "MALAT1 participates in ultraviolet B-induced photo-aging via regulation of the ERK/MAPK signaling pathway." in: **Molecular medicine reports**, Vol. 15, Issue 6, pp. 3977-3982, (2018) (PubMed). Zeng, Zhou, Lei, Chen, Lu, Zhou, Cao, Gao, Xia, Ding, Huang, Xiang, Wang, Xiao, Xiao, Huang: " Ganoderma lucidum polysaccharides protect fibroblasts against UVB-induced photoaging." in: **Molecular medicine reports**, Vol. 15, Issue 1, pp. 111-116, (2017) (PubMed).

Publications

Nosratzehi, Alijani, Moodi: "Salivary MMP-1, MMP-2, MMP-3 and MMP-13 Levels in Patients with Oral Lichen Planus and Squamous Cell Carcinoma" in: **Asian Pacific journal of cancer prevention : APJCP**, Vol. 18, Issue 7, pp. 1947-1951, (2017) (PubMed).

Stio, Martinesi, Treves, Borgioli: "In vitro response of human peripheral blood mononuclear cells to AISI 316L austenitic stainless steel subjected to nitriding and collagen coating treatments." in: **Journal of materials science. Materials in medicine**, Vol. 26, Issue 2, pp. 100, (2015) (PubMed).

Deng, Ling, Liu, Zhao, Lv: "Decreased expression of matrix metalloproteinase-1 in the maternal umbilical serum, trophoblasts and decidua leads to preeclampsia." in: **Experimental and therapeutic medicine**, Vol. 9, Issue 3, pp. 992-998, (2015) (PubMed).

There are more publications referencing this product on: Product page

Images

ELISA

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