Datasheet for ABIN411330

MMP3 ELISA Kit

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Overview

Quantity:	96 tests
Target:	MMP3
Binding Specificity:	AA 18-477
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-3
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin)
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: NSO Immunogen sequence: Y18-C477
Specificity:	Expression system for standard: NSO Immunogen sequence: Y18-C477
Cross-Reactivity (Details):	There is cross-reactivity with MMP-10 approximately 2 % , and no detectable cross-reactivity

Product Details

	with other MMPs.
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:	MMP3
Alternative Name:	MMP3 (MMP3 Products)
Background:	Protein Function: Can degrade fibronectin, laminin, gelatins of type I, III, IV, and V, collagens III, IV, X, and IX, and cartilage proteoglycans. Activates procollagenase. Background: Matrix metalloproteinase-3(MMP-3) also called stromelysin or transin, is a proteoglycanase closely related to collagenase(MMP1) with a wide range of substrate specificities. The complete primary structure for human MMP-3, which has 477 residues including a 17-residue signal peptide. MMP-3 and collagenase are 54 % identical in sequence, suggesting a common origin for the evolution of the two proteinases. MMP-3 and collagenase expression are coordinately modulated in synovial fibroblast cultures. MMP-3 is a secreted metalloprotease produced predominantly by connective tissue cells. Together with other metalloproteases, it can synergistically degrade the major components of the extracellular matrix. It is capable of degrading proteoglycan, fibronectin, laminin, and type IV collagen, but not interstitial type I collagen. MMP-3 genotype may be an important determinant of vascular remodeling and age-related arterial stiffening, with the heterozygote having the optimal balance between matrix accumulation and deposition. The standard product used in this kit is recombinant human MMP-3, consisting of 460 amino acids with the molecular mass of 52KDa. The detected MMP-3 includes zymogen and active enzyme. Synonyms: Stromelysin-1,SL-1,3.4.24.17,Matrix metalloproteinase-3,MMP-3,Transin-1,MMP3,STMY1, Full Gene Name: Stromelysin-1 Cellular Localisation: Secreted, extracellular space, extracellular matrix.
Gene ID:	4314
UniProt:	P08254

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:	Sequence similarities: Belongs to the peptidase M10A family.
Plate:	Pre-coated
Protocol:	human MMP-3 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for MMP-3 has been precoated onto 96-well plates. Standards(NSO, Y18-C477) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for MMP-3 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-3 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-3 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-3 standard solution and each sample be measured in duplicate.
Assay Precision:	• Sample 1: n=16, Mean(pg/ml): 983, Standard deviation: 45.2, CV(%): 4.6 • Sample 2: n=16, Mean(pg/ml): 3544, Standard deviation: 194.92, CV(%): 5.5 • Sample 3: n=16, Mean(pg/ml): 5954, Standard deviation: 351.3, CV(%): 5.9, • Sample 1: n=24, Mean(pg/ml): 1247, Standard deviation: 72.3, CV(%): 5.8 • Sample 2: n=24, Mean(pg/ml): 3721, Standard deviation: 230.7, CV(%): 6.2 • Sample 3: n=24, Mean(pg/ml): 6125, Standard deviation: 453.25, CV(%): 7.4
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:

Lin, Qiu, Xie, Liu, Sun: "Nimbolide suppresses non-small cell lung cancer cell invasion and migration via manipulation of DUSP4 expression and ERK1/2 signaling." in: **Biomedicine & pharmacotherapy**, Vol. 92, pp. 340-346, (2017) (PubMed).

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).

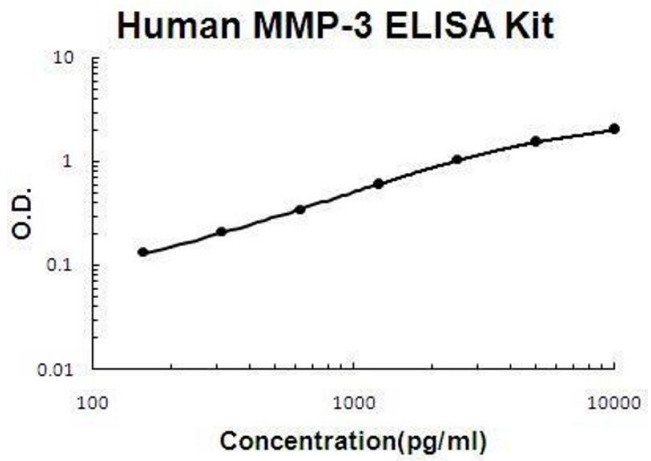
Ozcamdalli, Misir, Kizkapan, Uzun, Duygulu, Yazici, Kafadar: "Comparison of Intra-articular Injection of Hyaluronic Acid and N-Acetyl Cysteine in the Treatment of Knee Osteoarthritis: A Pilot Study." in: **Cartilage**, Vol. 8, Issue 4, pp. 384-390, (2017) (PubMed).

Qiu, Li, Zhang, Liu, Tian, Fang: "P2X7 mediates ATP-driven invasiveness in prostate cancer cells. " in: **PLoS ONE**, Vol. 9, Issue 12, pp. e114371, (2015) (PubMed).

Capsoni, Ongari, Lonati, Accetta, Gatti, Catania: "?-Melanocyte-stimulating-hormone (?-MSH) modulates human chondrocyte activation induced by proinflammatory cytokines." in: **BMC musculoskeletal disorders**, Vol. 16, pp. 154, (2015) (PubMed).

There are more publications referencing this product on: Product page

Images



ELISA

Image 1. Human MMP-3 PicoKine ELISA Kit standard curve