

Datasheet for ABIN411380

TIMP1 ELISA Kit



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Overview

Quantity:	96 tests
Target:	TIMP1
Binding Specificity:	AA 24-217
Reactivity:	Rat
Method Type:	Sandwich ELISA
Detection Range:	31.2-2000 pg/mL
Minimum Detection Limit:	31.2 pg/mL
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Rat TIMP-1
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (EDTA)
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: NSO Immunogen sequence: C24-A217
Specificity:	Expression system for standard: NSO Immunogen sequence: C24-A217
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.

Product Details

Sensitivity:	<3pg/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:	TIMP1
Alternative Name:	TIMP1 (TIMP1 Products)
Background:	<p>Protein Function: Metalloproteinase inhibitor that functions by forming one to one complexes with target metalloproteinases, such as collagenases, and irreversibly inactivates them by binding to their catalytic zinc cofactor. Acts on MMP1, MMP2, MMP3, MMP7, MMP8, MMP9, MMP10, MMP11, MMP12, MMP13 and MMP16. Does not act on MMP14. Also functions as a growth factor that regulates cell differentiation, migration and cell death and activates cellular signaling cascades via CD63 and ITGB1. Plays a role in integrin signaling. Also stimulates steroidogenesis by Leydig and ovarian granuloma cells, procathepsin L is required for maximal activity. .</p> <p>Background: The tissue inhibitor of metalloproteinases 1(TIMP1) is also called erythroid-potentiating activity(EPA). The X-linked gene for human TIMP1 is expressed in some but not all inactive X-containing somatic-cell hybrids, suggesting that this gene is either prone to reactivation or variable in its inactivation.1 Purified EPA specifically stimulates human and murine cells of the erythroid lineage, unlike murine interleukin-3(IL-3) which stimulates precursor cells from all haematopoietic lineages.2 TIMP1 is thought to play a regulatory role in connective tissues by forming inactive complexes with those metalloproteinases that are normally responsible for connective tissue turnover. The human gene encoding TIMP has been mapped to the X chromosome in the region Xp11.1-p11.4.3 The standard product used in this kit is recombinant rat TIMP-1, consisting of 194 amino acids with the molecular mass of 21.5KDa. As a result of glycosylation, the molecular mass is 32-34KDa.</p> <p>Synonyms: Metalloproteinase inhibitor 1,Tissue inhibitor of metalloproteinases 1,TIMP-1,Timp1,Timp-1,</p> <p>Full Gene Name: Metalloproteinase inhibitor 1</p> <p>Cellular Localisation: Secreted.</p>
Gene ID:	116510
UniProt:	P30120

Application Details

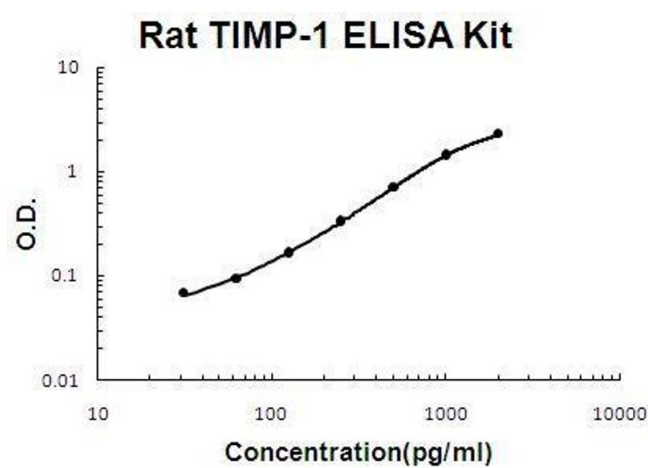
Application Notes:	Before using Kit, spin tubes and bring down all components to bottom of tube. Duplicate well assay was recommended for both standard and sample testing.
Comment:	Sequence similarities: Belongs to the protease inhibitor I35 (TIMP) family.
Plate:	Pre-coated
Protocol:	rat TIMP-1 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for TIMP-1 has been precoated onto 96-well plates. Standards(NSO, C24-A217) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for TIMP-1 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 rat TIMP-1 amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 2000pg/mL, 1000pg/mL, 500pg/mL, 250pg/mL, 125pg/mL, 62.5pg/mL, 31.2pg/mL rat TIMP-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 rat cell culture supernates, serum or plasma(heparin, EDTA) to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each rat TIMP-1 standard solution and each sample be measured in duplicate.
Assay Precision:	<ul style="list-style-type: none">• Sample 1: n=16, Mean(pg/ml): 162, Standard deviation: 7, CV(%): 4.3• Sample 2: n=16, Mean(pg/ml): 524, Standard deviation: 32.5, CV(%): 6.2• Sample 3: n=16, Mean(pg/ml): 1447, Standard deviation: 73.8, CV(%): 5.1,• Sample 1: n=24, Mean(pg/ml): 178, Standard deviation: 13.17, CV(%): 7.4• Sample 2: n=24, Mean(pg/ml): 559, Standard deviation: 36.34, CV(%): 6.5• Sample 3: n=24, Mean(pg/ml): 1308, Standard deviation: 90.25, CV(%): 6.9

Restrictions:	For Research Use only
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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

- Product cited in:
- Peng, Xie, Wang, Wu, Liu, Wang, Ma, Chang, Yang: "MOXIBUSTION ALLEVIATES GASTRIC PRECANCEROUS LESIONS IN RATS BY PROMOTING CELL APOPTOSIS AND INHIBITING PROLIFERATION-RELATED ONCOGENES." in: **African journal of traditional, complementary, and alternative medicines : AJTCAM**, Vol. 14, Issue 2, pp. 148-160, (2017) ([PubMed](#)).
- Gishto, Farrell, Kothapalli: "Tuning composition and architecture of biomimetic scaffolds for enhanced matrix synthesis by murine cardiomyocytes." in: **Journal of biomedical materials research. Part A**, Vol. 103, Issue 2, pp. 693-708, (2015) ([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](#)).
- Cavdar, Ozbal, Celik, Ergur, Guneli, Ural, Camsari, Guner: "The effects of alpha-lipoic acid on MMP-2 and MMP-9 activities in a rat renal ischemia and re-perfusion model." in: **Biotechnic & histochemistry : official publication of the Biological Stain Commission**, Vol. 89, Issue 4, pp. 304-14, (2014) ([PubMed](#)).
- Xu, Ling, Zhu, Fan, Zhang: "The effect of 2,3,4',5-tetrahydroxystilbene-2-O- β -D glucoside on neointima formation in a rat artery balloon injury model and its possible mechanisms." in: **European journal of pharmacology**, Vol. 698, Issue 1-3, pp. 370-8, (2013) ([PubMed](#)).
- There are more publications referencing this product on: [Product page](#)



ELISA

Image 1. Rat TIMP-1 PicoKine ELISA Kit standard curve