

Datasheet for ABIN411358

**TIMP1 ELISA Kit****1** Image**13** Publications[Go to Product page](#)

## Overview

Quantity: 96 tests

Target: TIMP1

Binding Specificity: AA 24-207

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 TIMP-1

Brand: PicoKine™

Sample Type: Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (EDTA), Saliva

Analytical Method: Quantitative

Detection Method: Colorimetric

Immunogen: Expression system for standard: NSO  
Immunogen sequence: C24-A207Specificity: Expression system for standard: NSO  
Immunogen sequence: C24-A207

Cross-Reactivity (Details): There is no detectable cross-reactivity with other relevant proteins.

## Product Details

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Sensitivity: <5pg/mL

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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

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## Target Details

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Target: TIMP1

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Alternative Name: TIMP1 ([TIMP1 Products](#))

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Background: 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. Mediates erythropoiesis in vitro, but, unlike IL3, it is species-specific, stimulating the growth and differentiation of only human and murine erythroid progenitors. .

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. 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. 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. The standard product used in this kit is natural TIMP-1 with the molecular mass of 22KDa.

Synonyms: Metalloproteinase inhibitor 1,Erythroid-potentiating activity,EPA,Fibroblast collagenase inhibitor,Collagenase inhibitor,Tissue inhibitor of metalloproteinases 1,TIMP-1,TIMP1,CLGI, TIMP,

Full Gene Name: Metalloproteinase inhibitor 1

Cellular Localisation: Secreted.

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Gene ID: 7076

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UniProt: [P01033](#)

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## Application Details

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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. Tissue Specificity: Detected in rheumatoid synovial fluid (at protein level).
Plate:	Pre-coated
Protocol:	human 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-A207) 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 human TIMP-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 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 human cell culture supernates, serum, plasma(heparin, EDTA) or saliva to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each human TIMP-1 standard solution and each sample be measured in duplicate.

Assay Precision:	<ul style="list-style-type: none"><li>• Sample 1: n=16, Mean(ng/ml): 1.21, Standard deviation: 0.057, CV(%): 4.7</li><li>• Sample 2: n=16, Mean(ng/ml): 3.28, Standard deviation: 0.171, CV(%): 5.2</li><li>• Sample 3: n=16, Mean(ng/ml): 7.06, Standard deviation: 0.424, CV(%): 6,</li><li>• Sample 1: n=24, Mean(ng/ml): 1.34, Standard deviation: 0.071, CV(%): 5.3</li><li>• Sample 2: n=24, Mean(ng/ml): 3.54, Standard deviation: 0.248, CV(%): 7</li><li>• Sample 3: n=24, Mean(ng/ml): 6.32, Standard deviation: 0.43, CV(%): 6.8</li></ul>
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Restrictions:	For Research Use only
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## Handling

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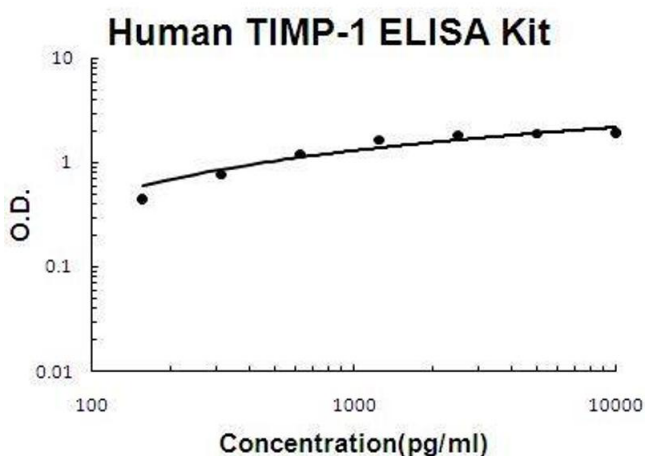
Handling Advice:	Avoid multiple freeze-thaw cycles.
Storage:	-20 °C,4 °C
Storage Comment:	Store at 4°C for 6 months, at -20°C for 12 months. Avoid multiple freeze-thaw cycles
Expiry Date:	12 months

## Publications

- Product cited in: Sollazzo, Forte, Polverelli, Romano, Perricone, Rossi, Ottaviani, Luatti, Martinelli, Vianelli, Cavo, Palandri, Catani: "Crucial factors of the inflammatory microenvironment (IL-1 $\beta$ /TNF- $\alpha$ /TIMP-1) promote the maintenance of the malignant hemopoietic clone of myelofibrosis: an in vitro study." in: **Oncotarget**, Vol. 7, Issue 28, pp. 43974-43988, (2018) ([PubMed](#)).
- Forte, Salvestrini, Corradi, Rossi, Catani, Lemoli, Cavo, Curti: "The tissue inhibitor of metalloproteinases-1 (TIMP-1) promotes survival and migration of acute myeloid leukemia cells through CD63/PI3K/Akt/p21 signaling." in: **Oncotarget**, Vol. 8, Issue 2, pp. 2261-2274, (2018) ([PubMed](#)).
- Liu, Zhong, He, Wei, Zheng, Zhang, Bai, Zhong, Zhong: "Effect of low-dose, long-term roxithromycin on airway inflammation and remodeling of stable noncystic fibrosis bronchiectasis." in: **Mediators of inflammation**, Vol. 2014, pp. 708608, (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](#)).
- 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](#)).

There are more publications referencing this product on: [Product page](#)

## Images



### ELISA

**Image 1.** Human TIMP-1 PicoKine ELISA Kit standard curve