

Human TIMP1 ELISA Kit ab187394

Recombinant SimpleStep ELISA[®]

[6 References](#) [11 Images](#)

Overview

Product name Human TIMP1 ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Serum	8			4.4%

Inter-assay

Sample	n	Mean	SD	CV%
Serum	3			0.6%

Sample type

Cell culture supernatant, Saliva, Serum, Hep Plasma, EDTA Plasma, Cit plasma

Assay type

Sandwich (quantitative)

Sensitivity

17 pg/ml

Range

62.5 pg/ml - 4000 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Cell culture supernatant	89	86% - 92%
Saliva	84	82% - 87%
Serum	89	89% - 90%
Hep Plasma	95	94% - 98%
EDTA Plasma	89	86% - 91%
Cit plasma	97	95% - 99%

Assay time	1h 30m
Assay duration	One step assay
Species reactivity	Reacts with: Human
Product overview	Human TIMP1 ELISA kit has been re-developed. We have identified new recombinant monoclonal antibodies to provide improved performance and consistency.

Human TIMP1 ELISA Kit (ab187394) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of TIMP1 protein in cit plasma, edta plasma, hep plasma, serum, saliva, and cell culture supernatant. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human TIMP1 with 17 pg/ml sensitivity.

SimpleStep ELISA® technology employs capture antibodies conjugated to an affinity tag that is recognized by the monoclonal antibody used to coat our SimpleStep ELISA® plates. This approach to sandwich ELISA allows the formation of the antibody-analyte sandwich complex in a single step, significantly reducing assay time. See the SimpleStep ELISA® protocol summary in the image section for further details. Our SimpleStep ELISA® technology provides several benefits:

- Single-wash protocol reduces assay time to 90 minutes or less
- High sensitivity, specificity and reproducibility from superior antibodies
- Fully validated in biological samples
- 96-wells plate breakable into 12 x 8 wells strips

A 384-well SimpleStep ELISA® microplate ([ab203359](#)) is available to use as an alternative to the 96-well microplate provided with SimpleStep ELISA® kits.

Notes Tissue inhibitor of metalloproteinases 1 (TIMP1 or Metalloproteinase inhibitor 1) is a widely expressed inhibitor of matrix metalloproteinases (MMPs). It functions by binding non-covalently to MMPs (in a 1:1 stoichiometry) and blocking access of substrate to the MMP active site. TIMP1 expression is induced by pro-inflammatory cytokines. It is a soluble factor found circulating in serum and plasma. TIMP1 appears also have functions that are independent of MMP inhibition, including promoting erythropoiesis and inhibiting apoptosis in B cells.

Platform Microplate

Properties

Storage instructions Store at +4°C. Please refer to protocols.

Components	1 x 96 tests	10 x 96 tests	1 x 384 tests
10X Human TIMP-1 Capture Antibody	1 x 600µl	1 x 6000µl	1 x 600µl
10X Human TIMP-1 Detector Antibody	1 x 600µl	1 x 6000µl	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml	1 x 200ml	1 x 20ml
384 well CaptSure™ microplates	0 x 0 unit	0 x 0 unit	1 unit
Antibody Diluent 4BI	1 x 6ml	10 x 6ml	1 x 6ml

Components	1 x 96 tests	10 x 96 tests	1 x 384 tests
Human TIMP-1 Lyophilized Recombinant Protein	2 vials	2 x 10 vials	2 vials
Plate Seals	1 unit	1 x 10 units	1 unit
Sample Diluent NS (ab193972)	1 x 50ml	2 x 250ml	2 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit	1 x 10 units	0 x 0 unit
Stop Solution	1 x 12ml	1 x 120ml	2 x 12ml
TMB Development Solution	1 x 12ml	1 x 120ml	2 x 12ml

Function

Complexes with metalloproteinases (such as collagenases) and irreversibly inactivates them by binding to their catalytic zinc cofactor. Also mediates erythropoiesis in vitro; but, unlike IL-3, it is species-specific, stimulating the growth and differentiation of only human and murine erythroid progenitors. Known to act on MMP-1, MMP-2, MMP-3, MMP-7, MMP-8, MMP-9, MMP-10, MMP-11, MMP-12, MMP-13 and MMP-16. Does not act on MMP-14.

Sequence similarities

Belongs to the protease inhibitor I35 (TIMP) family.
Contains 1 NTR domain.

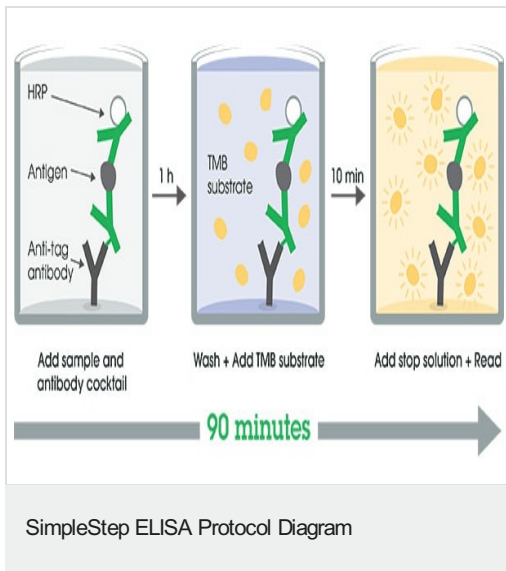
Post-translational modifications

The activity of TIMP1 is dependent on the presence of disulfide bonds.

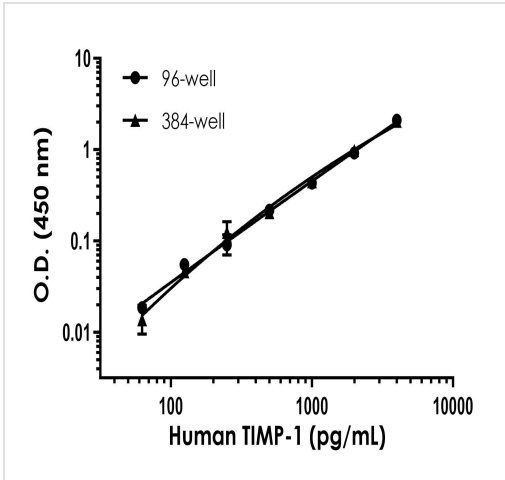
Cellular localization

Secreted.

Images

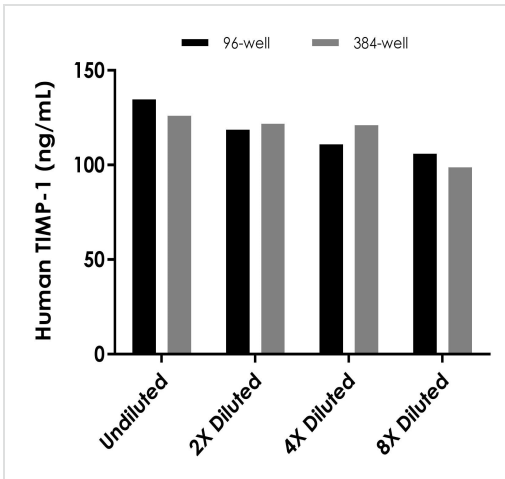


SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



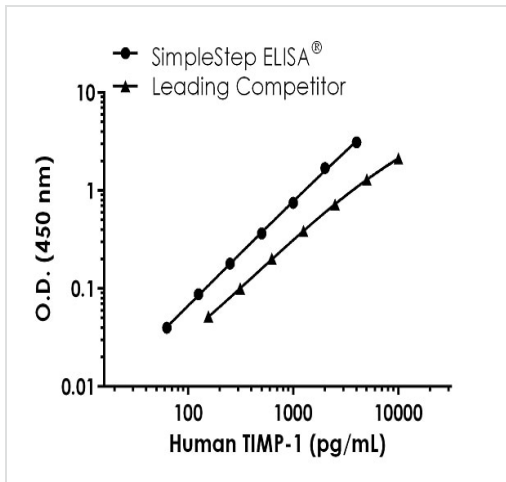
Interpolated concentrations of human TIMP-1 in serum in 96-well vs. 384-well plates.

Interpolated concentration of native TIMP-1 was measured in duplicate at different sample concentrations in 96-well vs. 384-well plates. Undiluted samples are 5% human serum. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). Sample dilutions are made in Sample Diluent NS.



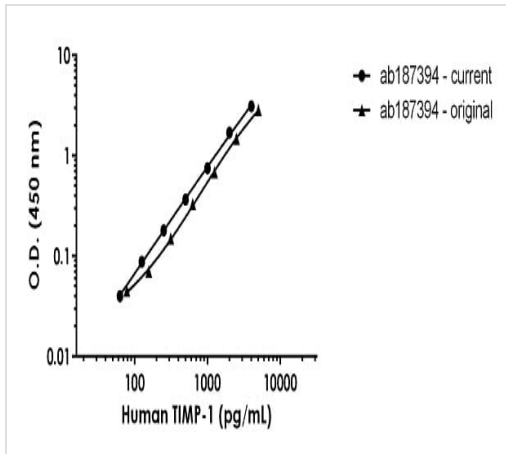
Example of human TIMP-1 standard curve in Sample Diluent NS in 96-well vs. 384-well plate.

Example of human TIMP-1 standard curve in 96-well vs. 384-well plate. Background-subtracted data values (mean +/- SD) are graphed.



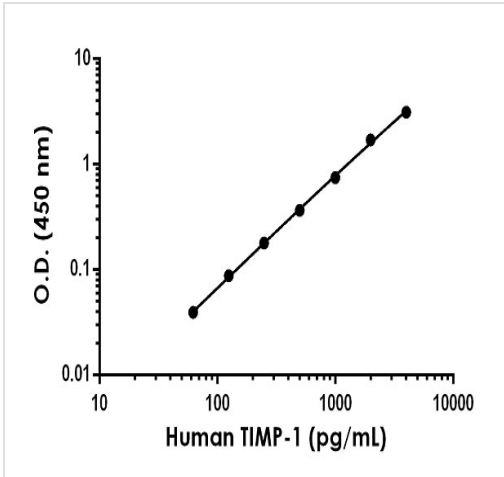
Standard Curve comparison between Human TIMP-1 SimpleStep ELISA kit and traditional ELISA kit from leading competitor. SimpleStep ELISA kit shows increased sensitivity.

Human TIMP-1 competitor curve comparison



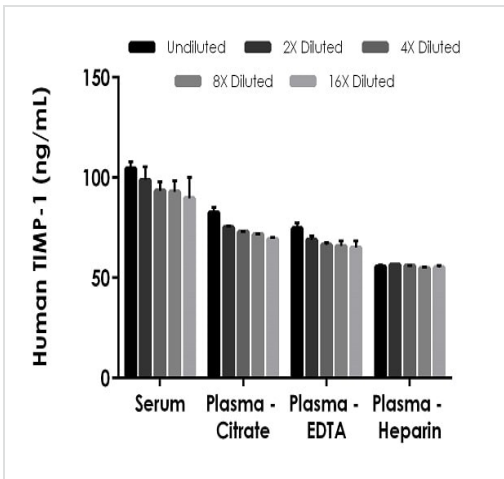
Standard Curve comparison between the original Human TIMP-1 SimpleStep ELISA kit and current Human TIMP-1 SimpleStep ELISA kit.

Human TIMP-1 standard curve comparison



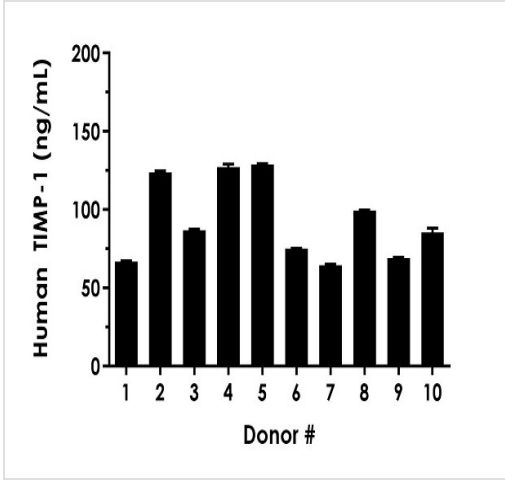
The TIMP-1 standard curve was prepared as described in Section 10. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed.

Example of human TIMP-1 standard curve in Sample Diluent NS.



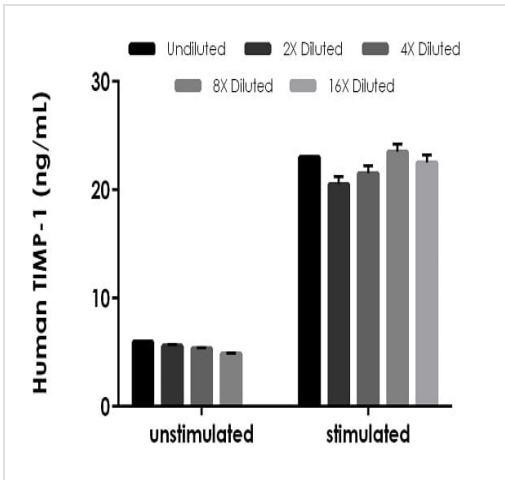
The concentrations of TIMP-1 were measured in duplicates, interpolated from the TIMP-1 standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 5%, plasma (citrate) 5%, plasma (EDTA) 5% and plasma (heparin) 10%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean TIMP-1 concentration was determined to be 95.9 ng/mL in serum, 74 ng/mL in plasma (citrate), 68 ng/mL in plasma (EDTA) and 56 ng/mL in plasma (heparin).

Interpolated concentrations of native TIMP-1 in human serum, and plasma samples.



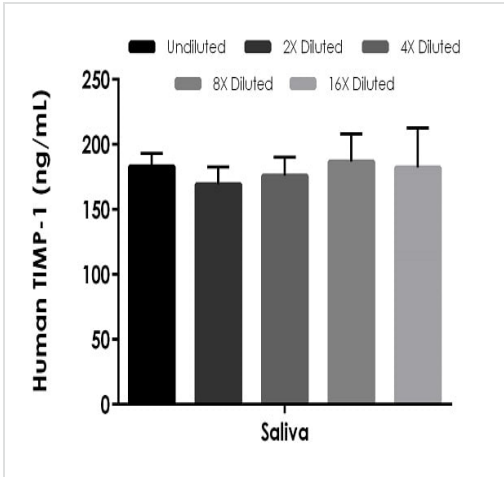
Interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean TIMP-1 concentration was determined to be 92.6 ng/mL with a range of 66.5 – 128.7 ng/mL.

Serum from ten individual healthy human male donors was measured in duplicate.



The concentrations of TIMP-1 were measured in duplicates, interpolated from the TIMP-1 standard curves and corrected for sample dilution. Undiluted samples are as follows: unstimulated PBMC cell culture supernatant 20% and stimulated PBMC cell culture supernatant. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean TIMP-1 concentration was determined to be 5 ng/mL in unstimulated and 22 ng/mL in stimulated and undetectable in media.

Interpolated concentrations of native TIMP-1 in human cell culture supernatant samples.



Interpolated concentrations of native TIMP-1 in human saliva sample.

The concentrations of TIMP-1 were measured in duplicates, interpolated from the TIMP-1 standard curves and corrected for sample dilution. Undiluted samples are as follows: saliva 2%, The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean TIMP-1 concentration was determined to be 179.4 ng/mL in saliva.

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recombinant antibodies

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Long-term and scalable supply
Recombinant technology

Success from the first experiment
Confirmed specificity

Ethical standards compliant
Animal-free production

Sandwich ELISA - Human TIMP1 ELISA Kit
(ab187394)

To learn more about the advantages of recombinant antibodies see [here](#).

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