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Datasheet for ABIN625215

## TIMP1 ELISA Kit

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### Overview

Quantity: 96 tests

Target: TIMP1

Reactivity: Rat

Method Type: Sandwich ELISA

Application: ELISA

### Product Details

Purpose: Rat TIMP-1 ELISA Kit for cell and tissue lysate samples.

Sample Type: Cell Lysate, Tissue Lysate

Analytical Method: Quantitative

Detection Method: Colorimetric

Specificity: The antibody pair provided in this kit recognizes rat TIMP-1.

Sensitivity: 4 pg/mL

Characteristics:

- Strip plates and additional reagents allow for use in multiple experiments
- Quantitative protein detection
- Establishes normal range
- The best products for confirmation of antibody array data

Components:

- Pre-Coated 96-well Strip Microplate
- Wash Buffer
- Stop Solution
- Assay Diluent(s)

## Product Details

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- Lyophilized Standard
- Biotinylated Detection Antibody
- Streptavidin-Conjugated HRP
- TMB One-Step Substrate

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### Material not included:

- Distilled or deionized water
- Precision pipettes to deliver 2 µL to 1 µL volumes
- Adjustable 1-25 µL pipettes for reagent preparation
- 100 µL and 1 liter graduated cylinders
- Tubes to prepare standard and sample dilutions
- Absorbent paper
- Microplate reader capable of measuring absorbance at 450nm
- Log-log graph paper or computer and software for ELISA data analysis
- Cell lysate buffer

## Target Details

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Target:	TIMP1
Alternative Name:	TIMP-1 ( <a href="#">TIMP1 Products</a> )
Background:	Metalloproteinase inhibitor 1 (Tissue inhibitor of metalloproteinases 1) (TIMP-1)
Gene ID:	116510
UniProt:	<a href="#">P30120</a>

## Application Details

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Sample Volume:	100 µL
Plate:	Pre-coated
Protocol:	<ol style="list-style-type: none"><li>1. Prepare all reagents, samples and standards as instructed in the manual.</li><li>2. Add 100 µL of standard or sample to each well.</li><li>3. Incubate 2.5 h at RT or O/N at 4 °C.</li><li>4. Add 100 µL of prepared biotin antibody to each well.</li><li>5. Incubate 1 h at RT.</li><li>6. Add 100 µL of prepared Streptavidin solution to each well.</li><li>7. Incubate 45 min at RT.</li><li>8. Add 100 µL of TMB One-Step Substrate Reagent to each well.</li><li>9. Incubate 30 min at RT.</li><li>10. Add 50 µL of Stop Solution to each well.</li><li>11. Read at 450 nm immediately.</li></ol>

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## Application Details

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- Reagent Preparation:
1. Bring all reagents and samples to room temperature (18 - 25 °C) before use.
  2. Sample dilution: Tissue lysate and cell lysate sample should be diluted at least 5-fold with 1x Sample Diluent Buffer.
  3. Sample Diluent Buffer (Item D) and Assay Diluent (Item E) should be diluted 5-fold with deionized or distilled water before use.
  4. Preparation of standard: Briefly spin the vial of Item C. Add 400 µL 1x Sample Diluent Buffer (Item D, Sample Diluent Buffer should be diluted 5-fold with deionized or distilled water before use) into Item C vial to prepare a 50 ng/mL standard. Dissolve the powder thoroughly by a gentle mix. Add 30 µL TIMP-1 standard from the vial of Item C, into a tube with 470 µL Sample Diluent Buffer to prepare a 3,000 pg/mL stock standard solution. Pipette 400 µL 1x Sample Diluent Buffer into each tube. Use the stock standard solution to produce a dilution series. Mix each tube thoroughly before the next transfer. 1x Sample Diluent Buffer serves as the zero standard (0 pg/mL). 200 µL 200 µL 200 µL 200µl 200 µL 200 µL 30 µL standard + 470 µL 3,000 1,000 333.3 111.1 37.0 12.3 4.1 0 pg/mL pg/mL pg/mL pg/mL pg/mL pg/mL pg/mL pg/mL
  5. If the Wash Concentrate (20x) (Item B) contains visible crystals, warm to room temperature and mix gently until dissolved. Dilute 20 ml of Wash Buffer Concentrate into deionized or distilled water to yield 400 ml of 1x Wash Buffer.
  6. Briefly spin the Detection Antibody vial (Item F) before use. Add 100 µL of 1x Assay Diuent into the vial to prepare a detection antibody concentrate. Pipette up and down to mix gently (the concentrate can be stored at 4 °C for 5 days). The detection antibody concentrate should be diluted 80-fold with 1x Assay Diuent and used in step 4 of Part VI Assay Procedure.
  7. Briefly spin the HRP-Streptavidin concentrate vial (Item G) and pipette up and down before use. HRP-Streptavidin concentrate should be diluted 400-fold with 1x Assay Diuent. For example: Briefly spin the vial (Item G) and pipette up and down to mix gently. Add 30 µL of HRP-Streptavidin concentrate into a tube with 12 ml 1x Assay Diluent to prepare a 400-fold diluted HRP- Streptavidin solution (don't store the diluted solution for next day use). Mix well.
  8. Cell lysate buffer should be diluted 2-fold with deionized or distilled water (for cell lysate and tissue lysate).

- Assay Procedure:
1. Bring all reagents and samples to room temperature (18 - 25 °C) before use. It is recommended that all standards and samples be run at least in duplicate.
  2. Add 100 µL of each standard (see Reagent Preparation step 2) and sample into appropriate wells. Cover well and incubate for 2.5 hours at room temperature or over night at 4 °C with gentle shaking. We recommend using 50-500 myg/mL of total protein for lysate sample. The amount of sample used depends on the abundance of target protein. More of the sample can

be used if signals are too weak. If signals are too strong, the sample can be diluted further.

3. Discard the solution and wash 4 times with 1x Wash Solution. Wash by filling each well with Wash Buffer (300 µl) using a multi-channel Pipette or autowasher. Complete removal of liquid at each step is essential to good performance. After the last wash, remove any remaining Wash Buffer by aspirating or decanting. Invert the plate and blot it against clean paper towels.

4. Add 100 µL of 1x prepared biotinylated antibody (Reagent Preparation step 6) to each well. Incubate for 1 hour at room temperature with gentle shaking.

5. Discard the solution. Repeat the wash as in step

6. Add 100 µL of prepared Streptavidin solution (see Reagent Preparation step 7) to each well. Incubate for 45 minutes at room temperature with gentle shaking.

7. Discard the solution. Repeat the wash as in step

8. Add 100 µL of TMB One-Step Substrate Reagent (Item H) to each well. Incubate for 30 minutes at room temperature in the dark with gentle shaking.

9. Add 50 µL of Stop Solution (Item I) to each well. Read at 450 nm immediately.

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### Calculation of Results:

Calculate the mean absorbance for each set of duplicate standards, controls and samples, and subtract the average zero standard optical density. Plot the standard curve on log-log graph paper or using Sigma plot software, with standard concentration on the x-axis and absorbance on the y-axis. Draw the best-fit straight line through the standard points.

Typical Data: These standard curves are for demonstration only. A standard curve must be run with each assay. Sample Diluent Buffer Rat TIMP-1 concentration (pg/mL) 1 10 100 1000 10000 O D =4 50 (n m) 0.01 0.1 1 10

Sensitivity: The minimum detectable dose of TIMP-1 is typically less than 4 pg/mL.

Recovery: Recovery was determined by spiking various levels of rat TIMP-1 into tissue lysate and cell lysate. Mean recoveries are as follows: Sample Type Average % Recovery Range (%) Tissue lysate 93.42 84-103 Cell lysate 92.81 82-102

Linearity: Sample Type Tissue Cell Lysate lysate 1:2 Average % of 92 88 Expected Range (%) 83-103 82-101 1:4 Average % of 94 91 Expected Range (%) 84-102 83-103

Reproducibility: Intra-Assay: CV<10 % Inter-Assay: CV<12 %

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### Assay Precision:

Intra-Assay: CV< 10 % Inter-Assay: CV< 12 %

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### Restrictions:

For Research Use only

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## Handling

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### Handling Advice:

Avoid repeated freeze-thaw cycles.

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### Storage:

-20 °C

## Handling

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Storage Comment: The entire kit may be stored at -20°C for up to 1 year from the date of shipment. Avoid repeated freeze-thaw cycles. The kit may be stored at 4°C for up to 6 months. For extended storage, it is recommended to store at -80°C.

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Expiry Date: 6 months

## Publications

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Product cited in: Nirala, Perumal, Gohil: "Glycated serum albumin stimulates expression of endothelial cell specific molecule-1 in human umbilical vein endothelial cells: Implication in diabetes mediated endothelial dysfunction." in: **Diabetes & vascular disease research**, Vol. 12, Issue 4, pp. 290-7, (2015) ([PubMed](#)).

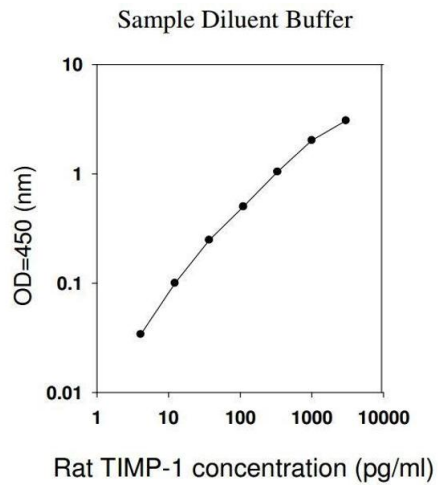
Nirala, Gohil: "Effect of garlic component s-allyl cysteine sulfoxide on glycated human serum albumin induced activation of endothelial cells: an in vitro study." in: **European review for medical and pharmacological sciences**, Vol. 19, Issue 11, pp. 2125-31, (2015) ([PubMed](#)).

Bala, Gohil: "Interaction of glycated protein and DFO mimicked hypoxia in cellular responses of HUVECs." in: **Molecular bioSystems**, Vol. 8, Issue 10, pp. 2657-63, (2012) ([PubMed](#)).

Bala, Gomes, Gohil: "Interaction of glycated human serum albumin with endothelial cells in a hemodynamic environment: structural and functional correlates." in: **Molecular bioSystems**, Vol. 7, Issue 11, pp. 3036-41, (2012) ([PubMed](#)).

Chima, LaMontagne, Piraino, Hake, Denenberg, Zingarelli: "C-peptide, a novel inhibitor of lung inflammation following hemorrhagic shock." in: **American journal of physiology. Lung cellular and molecular physiology**, Vol. 300, Issue 5, pp. L730-9, (2011) ([PubMed](#)).

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



**ELISA**

**Image 1.**