

# TIMP-1 (2A5): sc-21734

## BACKGROUND

TIMP-1, TIMP-2, TIMP-3 and TIMP-4 (for tissue inhibitor of metalloproteinases -1, -2, -3 and -4) complex with metalloproteinases such as collagenases, gelatinases and stromelysins, resulting in irreversible inactivation of the metalloproteinase. TIMP-1 has been found to be identical to EPA (erythroid-potential activity). Parathyroid hormone has been shown to be a regulator of TIMP-2 in osteoblastic cells. TIMP-3 may be involved in regulating trophoblastic invasion of the uterus as well as in regulating remodeling of the extracellular matrix during the folding of epithelia, and in the formation, branching and expansion of epithelial tubes. TIMP-4 is most highly expressed in heart and low levels of TIMP-4 are expressed in liver, brain, lung, thymus and spleen.

## CHROMOSOMAL LOCATION

Genetic locus: TIMP1 (human) mapping to Xp11.23; Timp1 (mouse) mapping to X A1.3.

## SOURCE

TIMP-1 (2A5) is a mouse monoclonal antibody raised against a synthetic peptide.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TIMP-1 (2A5) is available conjugated to agarose (sc-21734 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-21734 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-21734 PE), fluorescein (sc-21734 FITC), Alexa Fluor® 488 (sc-21734 AF488), Alexa Fluor® 546 (sc-21734 AF546), Alexa Fluor® 594 (sc-21734 AF594) or Alexa Fluor® 647 (sc-21734 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-21734 AF680) or Alexa Fluor® 790 (sc-21734 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

TIMP-1 (2A5) is recommended for detection of TIMP-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for TIMP-1 siRNA (h): sc-29505, TIMP-1 siRNA (m): sc-37274, TIMP-1 shRNA Plasmid (h): sc-29505-SH, TIMP-1 shRNA Plasmid (m): sc-37274-SH, TIMP-1 shRNA (h) Lentiviral Particles: sc-29505-V and TIMP-1 shRNA (m) Lentiviral Particles: sc-37274-V.

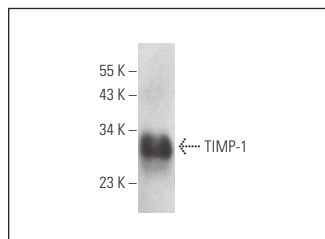
Molecular Weight of TIMP-1: 23 kDa.

Molecular Weight of glycosylated TIMP-1: 28 kDa.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA



TIMP-1 (2A5): sc-21734. Western blot analysis of human recombinant TIMP-1.

## SELECT PRODUCT CITATIONS

1. Elsasser, A., et al. 2004. Human hibernating myocardium is jeopardized by apoptotic and autophagic cell death. *J. Am. Coll. Cardiol.* 43: 2191-2199.
2. Wang, C., et al. 2015. Effect of Liuweibuqi capsule, a Chinese patent medicine, on the JAK1/Stat3 pathway and MMP-9/TIMP-1 in a chronic obstructive pulmonary disease rat model. *J. Tradit. Chin. Med.* 35: 54-62.
3. Du, M., et al. 2016. Nkx2-5 is expressed in atherosclerotic plaques and attenuates development of atherosclerosis in apolipoprotein E-deficient mice. *J. Am. Heart Assoc.* 5: e004440.
4. Yim, H.E., et al. 2017. Early treatment with enalapril and later renal injury in programmed obese adult rats. *J. Cell. Physiol.* 232: 447-455.
5. Tang, D., et al. 2018. Galectin-1 expression in activated pancreatic satellite cells promotes fibrosis in chronic pancreatitis/pancreatic cancer via the TGF-β1/Smad pathway. *Oncol. Rep.* 39: 1347-1355.
6. Hao, J., et al. 2019. Surfactant protein A induces the pathogenesis of renal fibrosis through binding to calreticulin. *Exp. Ther. Med.* 17: 459-464.
7. Avcioglu, G., et al. 2020. Effects of 1,25-dihydroxy vitamin D<sub>3</sub> on TNF-α induced inflammation in human chondrocytes and SW1353 cells: a possible role for toll-like receptors. *Mol. Cell. Biochem.* 464: 131-142.
8. Xi, Y., et al. 2021. The anti-fibrotic drug pirfenidone inhibits liver fibrosis by targeting the small oxidoreductase glutaredoxin-1. *Sci. Adv.* 7: eabg9241.
9. Choudhary, P., et al. 2022. Melatonin rescues swim stress induced gastric ulceration by inhibiting matrix metalloproteinase-3 via down-regulation of inflammatory signaling cascade. *Life Sci.* 297: 120426.
10. Samidurai, A., et al. 2023. Single-dose treatment with rapamycin preserves post-ischemic cardiac function through attenuation of fibrosis and inflammation in diabetic rabbit. *Int. J. Mol. Sci.* 24: 8998.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.