

TIMP-2 (3A4): sc-21735

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 was 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: TIMP2 (human) mapping to 17q25.3; Timp2 (mouse) mapping to 11 E2.

SOURCE

TIMP-2 (3A4) is a mouse monoclonal antibody raised against amino acids 56-66 of TIMP-2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TIMP-2 (3A4) is available conjugated to agarose (sc-21735 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-21735 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-21735 PE), fluorescein (sc-21735 FITC), Alexa Fluor® 488 (sc-21735 AF488), Alexa Fluor® 546 (sc-21735 AF546), Alexa Fluor® 594 (sc-21735 AF594) or Alexa Fluor® 647 (sc-21735 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-21735 AF680) or Alexa Fluor® 790 (sc-21735 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

TIMP-2 (3A4) is recommended for detection of TIMP-2 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-2 siRNA (h): sc-29506, TIMP-2 siRNA (m): sc-37275, TIMP-2 shRNA Plasmid (h): sc-29506-SH, TIMP-2 shRNA Plasmid (m): sc-37275-SH, TIMP-2 shRNA (h) Lentiviral Particles: sc-29506-V and TIMP-2 shRNA (m) Lentiviral Particles: sc-37275-V.

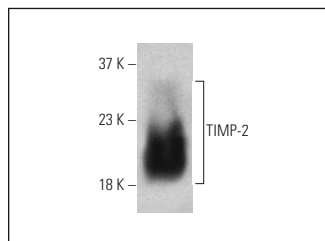
Molecular Weight of TIMP-2: 21 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or human salivary gland extract: sc-363762.

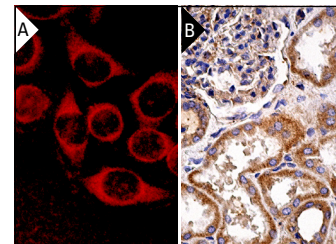
STORAGE

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

DATA



TIMP-2 (3A4) HRP: sc-21735 HRP. Direct western blot analysis of purified recombinant human TIMP-2.



TIMP-2 (3A4): sc-21735. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in glomeruli and tubules (B).

SELECT PRODUCT CITATIONS

- Shek, F.W., et al. 2002. Expression of transforming growth factor-β1 by pancreatic stellate cells and its implications for matrix secretion and turnover in chronic pancreatitis. *Am. J. Pathol.* 160: 1787-1798.
- Kowshik, J., et al. 2014. Astaxanthin inhibits JAK/STAT-3 signaling to abrogate cell proliferation, invasion and angiogenesis in a hamster model of oral cancer. *PLoS ONE* 9: e109114.
- Shan, N., et al. 2015. Laminin α4 (LAMA4) expression promotes trophoblast cell invasion, migration, and angiogenesis, and is lowered in pre-eclamptic placentas. *Placenta* 36: 809-820.
- Zhu, X., et al. 2016. Knockdown of TACC3 inhibits trophoblast cell migration and invasion through the PI3K/Akt signaling pathway. *Mol. Med. Rep.* 14: 3437-3442.
- Knafl, D., et al. 2017. The urine biomarker panel [IGFBP7]x[TIMP-2] (NephroCheck® parameter) does not correlate with IGFBP7 and TIMP-2 gene expression in urinary sediment. *PLoS ONE* 12: e0188316.
- Mikawa, R., et al. 2018. Elimination of p19^{ARF}-expressing cells protects against pulmonary emphysema in mice. *Aging Cell* 17: e12827.
- Ambhore, N.S., et al. 2019. Differential estrogen-receptor activation regulates extracellular matrix deposition in human airway smooth muscle remodeling via NFκB pathway. *FASEB J.* 33: 13935-13950.
- Santarella, F., et al. 2020. Scaffolds functionalized with matrix from induced pluripotent stem cell fibroblasts for diabetic wound healing. *Adv. Healthc. Mater.* 9: e2000307.
- Choi, M.H., et al. 2021. A selective small-molecule inhibitor of c-Met suppresses keloid fibroblast growth *in vitro* and in a mouse model. *Sci. Rep.* 11: 5468.

RESEARCH USE

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