SANTA CRUZ BIOTECHNOLOGY, INC.

TIMP-4 (C-16): sc-9375

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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-potentiation 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 and 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.

REFERENCES

1. Docherty, A.J., et al. 1985. Sequence of human tissue inhibitor of metalloproteinases and its identity to erythroid-potentiating activity. Nature 318: 66-69.
2. Carmichael, D.F., et al. 1986. Primary structure and cDNA cloning of human fibroblast collagenase inhibitor. Proc. Natl. Acad. Sci. USA 83: 2407-2411.
3. Cook, T.F., et al. 1994. Cloning and regulation of rat tissue inhibitor of metalloproteinase-2 in osteoblastic cells. Arch. Biochem. Biophys. 311: 313-320.
4. Silbiger, S.M., et al. 1994. Cloning of cDNAs encoding human TIMP-3, a novel member of the tissue inhibitor of metalloproteinase family. Gene 141: 293-297.
5. Apte, S.S., et al. 1994. Gene encoding a novel murine tissue inhibitor of metalloproteinases (TIMP), TIMP-3, is expressed in developing mouse epithelia, cartilage, and muscle, and is located on mouse chromosome 10. Dev. Dyn. 200: 177-197.
6. Apte, S.S., et al. 1995. The gene structure of tissue inhibitor of metalloproteinases (TIMP)-3 and its inhibitory activities define the distinct TIMP gene family. J. Biol. Chem. 270: 14313-14318.
7. Greene, J., et al. 1996. Molecular cloning and characterization of human tissue inhibitor of metalloproteinase 4. J. Biol. Chem. 271: 30375-30380.

CHROMOSOMAL LOCATION

Genetic locus: TIMP4 (human) mapping to 3p25.2; Timp4 (mouse) mapping to 6 E3.

SOURCE

TIMP-4 (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of TIMP-4 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-9375 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TIMP-4 (C-16) is recommended for detection of TIMP-4 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

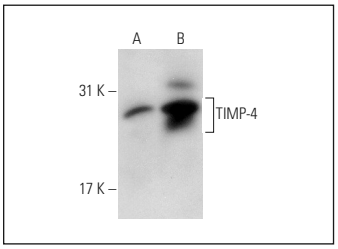
TIMP-4 (C-16) is also recommended for detection of TIMP-4 in additional species, including bovine.

Suitable for use as control antibody for TIMP-4 siRNA (h): sc-36679, TIMP-4 siRNA (m): sc-36680, TIMP-4 shRNA Plasmid (h): sc-36679-SH, TIMP-4 shRNA Plasmid (m): sc-36680-SH, TIMP-4 shRNA (h) Lentiviral Particles: sc-36679-V and TIMP-4 shRNA (m) Lentiviral Particles: sc-36680-V.

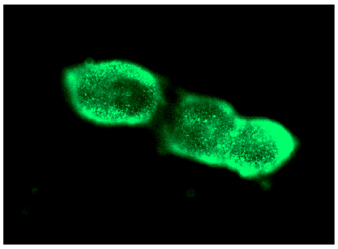
Molecular Weight of TIMP-4: 26 kDa.

Positive Controls: TIMP-4 (h2): 293T Lysate: sc-176198, Sol8 cell lysate: sc-2249 or MCF7 whole cell lysate: sc-2206.

DATA



TIMP-4 (C-16): sc-9375. Western blot analysis of TIMP-4 expression in non-transfected: sc-117752 (**A**) and human TIMP-4 transfected: sc-176198 (**B**) 293T whole cell lysates.



TIMP-4 (C-16): sc-9375. Immunofluorescence staining of methanol-fixed MCF7 cells showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

1. Li, J., et al. 2002. Collagen degradation in a murine myocarditis model: relevance of matrix metalloproteinase in association with inflammatory induction. Cardiovasc. Res. 56: 235-247.
2. Bu, S., et al. 2006. Localization and temporal regulation of tissue inhibitor of metalloproteinases-4 in mouse ovary. Reproduction 131: 1099-1107.
3. Rorive, S., et al. 2010. TIMP-4 and CD63: new prognostic biomarkers in human astrocytomas. Mod. Pathol. 23: 1418-1428.

STORAGE

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

RESEARCH USE

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