SANTA CRUZ BIOTECHNOLOGY, INC.

TIMP-1 (SPM355): sc-56489

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 was 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 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.

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.
8. Gomez, D.E., et al. 1997. Tissue inhibitors of metalloprrpteinases: structure, regulation and biological functions. Eur. J. Cell Biol. 74: 111-122.

CHROMOSOMAL LOCATION

Genetic locus: TIMP1 (human) mapping to Xp11.23.

SOURCE

TIMP-1 (SPM355) is a mouse monoclonal antibody raised against recombinant TIMP-1 of human origin.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

PRODUCT

Each vial contains IgG_1 in 250 µl of PBS with < 0.1% sodium azide.

APPLICATIONS

TIMP-1 (SPM355) is recommended for detection of TIMP-1 of human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:10-1:200), immunoprecipitation [1-2 µl per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution to be determined by researcher, dilution range 1:10-1:200) and immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:10-1:200).

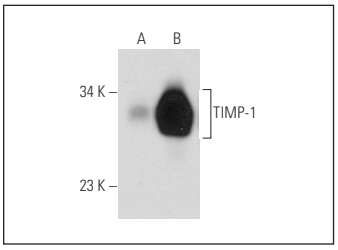
Suitable for use as control antibody for TIMP-1 siRNA (h): sc-29505, TIMP-1 shRNA Plasmid (h): sc-29505-SH and TIMP-1 shRNA (h) Lentiviral Particles: sc-29505-V.

Molecular Weight of TIMP-1: 23 kDa.

Molecular Weight of glycosylated TIMP-1: 28 kDa.

Positive Controls: TIMP-1 (h): 293 Lysate : sc-110547.

DATA



TIMP-1 (SPM355): sc-56489. Western blot analysis of TIMP-1 expression in non-transfected: sc-117752 (**A**) and human TIMP-1 transfected: sc-110547 (**B**) 293 whole cell lysates.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

RESEARCH USE

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

CONJUGATES

See **TIMP-1 (G-6): sc-365905** for TIMP-1 antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.