SANTA CRUZ BIOTECHNOLOGY, INC.

MT-MMP-2 (YZ-12): sc-80213

BACKGROUND

The matrix metalloproteinases (MMP) are a family of peptidase enzymes responsible for the degradation of extracellular matrix components, including collagen, gelatin, Fibronectin, Laminin and proteoglycan. Transcription of MMP genes is differentially activated by phorbol ester, lipopolysaccharide (LPS) or staphylococcal enterotoxin B (SEB). MMP catalysis requires both calcium and zinc. Membrane-type matrix metalloproteinases, including MT-MMP-1, MT-MMP-2, MT-MMP-3 and MT-MMP-4, are type I membrane proteins that function to activate other MMPs. MT-MMP activation appears to be mediated by members of the proprotein convertase family, suggesting that a proprotein convertase/MT-MMP/MMP cascade may be involved in the regulation of ECM turnover. MT-MMP-2, also designated MMP-15, is a 669 amino acid protein that is preferentially synthesized in testis, liver, intestine, colon and placenta.

REFERENCES

1. Will, H. and Hinzmann, B. 1995. cDNA sequence and mRNA tissue distribution of a novel human matrix metalloproteinase with a potential transmembrane segment. Eur. J. Biochem. 231: 602-608.
2. Takino, T., et al. 1995. Identification of the second membrane-type matrix metalloproteinase (MT-MMP-2) gene from a human placenta cDNA library. MT-MMPs form a unique membrane-type subclass in the MMP family. J. Biol. Chem. 270: 23013-23020.
3. d'Ortho, M.P., et al. 1997. Membrane-type matrix metalloproteinases 1 and 2 exhibit broad-spectrum proteolytic capacities comparable to many matrix metalloproteinases. Eur. J. Biochem. 250: 751-757.
4. Sato, H., et al. 1997. Assignment of the human genes for membrane-type-1, -2, and -3 matrix metalloproteinases (MMP-14, MMP-15, and MMP-16) to 14q12.2, 16q12.2-q21, and 8q21, respectively, by *in situ* hybridization. Genomics 39: 412-413.
5. Mattei, M.G., et al. 1997. Genes of the membrane-type matrix metalloproteinase (MT-MMP) gene family, MMP-14, MMP-15, and MMP-16, localize to human chromosomes 14, 16, and 8, respectively. Genomics 40: 168-169.
6. Tyagi, S.C., et al. 1998. Stretch-induced membrane type matrix metalloproteinase and tissue plasminogen activator in cardiac fibroblast cells. J. Cell. Physiol. 176: 374-382.
7. Online Mendelian Inheritance in Man, OMIM™. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 602261. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: MMP15 (human) mapping to 16q21.

SOURCE

MT-MMP-2 (YZ-12) is a mouse monoclonal antibody raised against amino acids 132-165 of MT-MMP-2 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml PBS with < 0.1% sodium azide and protein stabilizer.

APPLICATIONS

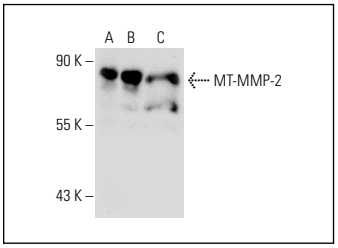
MT-MMP-2 (YZ-12) is recommended for detection of MT-MMP-2 ectodomain of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for MT-MMP-2 siRNA (h): sc-41567, MT-MMP-2 shRNA Plasmid (h): sc-41567-SH and MT-MMP-2 shRNA (h) Lentiviral Particles: sc-41567-V.

Molecular Weight of MT-MMP-2: 64 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

DATA



MT-MMP-2 (YZ-12): sc-80213. Western blot analysis of MT-MMP-2 expression in non-transfected 293T: sc-117752 (**A**), mouse MT-MMP-2 transfected 293T: sc-121817 (**B**) and HeLa (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Sakata, K., et al. 2000. Expression of matrix metalloproteinases (MMP-2, MMP-9, MT1-MMP) and their inhibitors (TIMP-1, TIMP-2) in common epithelial tumors of the ovary. Int. J. Oncol. 17: 673-681.
2. Liu, C., et al. 2017. c-Jun-mediated β-1,3-N-acetylglucosaminyltransferase 8 expression: a novel mechanism regulating the invasion and metastasis of colorectal carcinoma cells. Oncol. Lett. 14: 3722-3728.
3. Abu El-Asrar, A.M., et al. 2022. Differential expression and localization of ADAMTS proteinases in proliferative diabetic retinopathy. Molecules 27: 5977.
4. Di Donato, M., et al. 2025. Role of the androgen receptor in melanoma aggressiveness. Cell Death Dis. 16: 34.

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.