SANTA CRUZ BIOTECHNOLOGY, INC.

MT-MMP-1 (C-7): sc-377097

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 (also designated MMP-14), MT-MMP-2 (also designated MMP-15), MT-MMP-3 (also designated MMP-16) and MT-MMP-4 (also designated MMP-17) 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.

REFERENCES

1. Steiner, D.F., et al. 1992. The new enzymology of precursor processing endoproteases. J. Biol. Chem. 267: 23435-23438.
2. Birkedal-Hansen, H., et al. 1993. Matrix metalloproteinases: a review. Crit. Rev. Oral Biol. Med. 4: 197-250.

CHROMOSOMAL LOCATION

Genetic locus: MMP14 (human) mapping to 14q11.2; Mmp14 (mouse) mapping to 14 C2.

SOURCE

MT-MMP-1 (C-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 83-119 near the N-terminus of MT-MMP-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MT-MMP-1 (C-7) is available conjugated to agarose (sc-377097 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-377097 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377097 PE), fluorescein (sc-377097 FITC), Alexa Fluor® 488 (sc-377097 AF488), Alexa Fluor® 546 (sc-377097 AF546), Alexa Fluor® 594 (sc-377097 AF594) or Alexa Fluor® 647 (sc-377097 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377097 AF680) or Alexa Fluor® 790 (sc-377097 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377097 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

MT-MMP-1 (C-7) is recommended for detection of MT-MMP-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

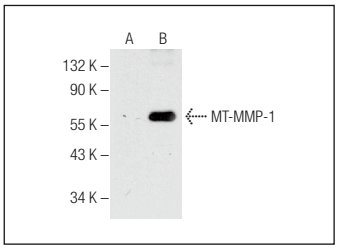
MT-MMP-1 (C-7) is also recommended for detection of MT-MMP-1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for MT-MMP-1 siRNA (h): sc-41565, MT-MMP-1 siRNA (m): sc-41566, MT-MMP-1 shRNA Plasmid (h): sc-41565-SH, MT-MMP-1 shRNA Plasmid (m): sc-41566-SH, MT-MMP-1 shRNA (h) Lentiviral Particles: sc-41565-V and MT-MMP-1 shRNA (m) Lentiviral Particles: sc-41566-V.

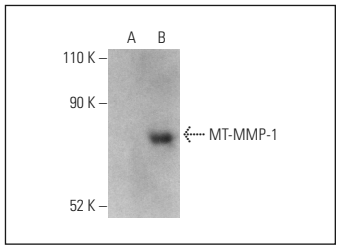
Molecular Weight of MT-MMP-1: 63 kDa.

Positive Controls: MT-MMP-1 (h): 293T Lysate: sc-116661 or MIA PaCa-2 cell lysate: sc-2285.

DATA



MT-MMP-1 (C-7): sc-377097. Western blot analysis of MT-MMP-1 expression in non-transfected: sc-117752 (**A**) and human MT-MMP-1 transfected: sc-116661 (**B**) 293T whole cell lysates.



MT-MMP-1 (C-7) HRP: sc-377097 HRP. Direct western blot analysis of MT-MMP-1 expression in non-transfected: sc-117552 (**A**) and human MT-MMP-1 transfected: sc-116661 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Zhong, Y., et al. 2015. Sclareol exerts anti-osteoarthritic activities in interleukin-1β-induced rabbit chondrocytes and a rabbit osteoarthritis model. Int. J. Clin. Exp. Pathol. 8: 2365-2374.
2. Cepeda, M.A., et al. 2017. The cytoplasmic domain of MT1-MMP is dispensable for migration augmentation but necessary to mediate viability of MCF7 breast cancer cells. Exp. Cell Res. 350: 169-183.
3. Lin, C.Z., et al. 2018. Lentiviral-mediated microRNA-26b up-regulation inhibits proliferation and migration of hepatocellular carcinoma cells. Kaohsiung J. Med. Sci. 34: 547-555.
4. Lin, Y.W., et al. 2023. Proteoglycan SPOCK1 as a poor prognostic marker promotes malignant progression of clear cell renal cell carcinoma via triggering the Snail/Slug-MMP-2 axis-mediated epithelial-to-mesenchymal transition. Cells 12: 352.

RESEARCH USE

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