SANTA CRUZ BIOTECHNOLOGY, INC.

MT-MMP-1 (MM0027-9E10): sc-101451

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.
3. Reinemer, P., et al. 1994. Structural implications for the role of the N terminus in the "superactivation" of collagenases. A crystallographic study. FEBS Lett. 338: 227-233.
4. Vassalli, J.D. and Pepper M.S. 1994. Tumour biology. Membrane proteases in focus. Nature 370: 14-15.
5. Sato, H., et al. 1994. A matrix metalloproteinase expressed on the surface of invasive tumour cells. Nature 370: 61-65.
6. Pei, D. and Weiss, S.J. 1995. Furin-dependent intracellular activation of the human stromelysin-3 zymogen. Nature 375: 244-247.
7. Machein, U. and Conca, W. 1997. Expression of several matrix metalloproteinase genes in human monocytic cells. Adv. Exp. Med. Biol. 421: 247-251.

CHROMOSOMAL LOCATION

Genetic locus: MMP14 (human) mapping to 14q11.2.

SOURCE

MT-MMP-1 (MM0027-9E10) is a mouse monoclonal antibody raised against recombinant MT-MMP-1 of human origin.

PRODUCT

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

STORAGE

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

PROTOCOLS

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

APPLICATIONS

MT-MMP-1 (MM0027-9E10) is recommended for detection of MT-MMP-1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 MT-MMP-1 siRNA (h): sc-41565, MT-MMP-1 shRNA Plasmid (h): sc-41565-SH and MT-MMP-1 shRNA (h) Lentiviral Particles: sc-41565-V.

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

Positive Controls: MIA PaCa-2 cell lysate: sc-2285.

SELECT PRODUCT CITATIONS

1. Peng, C.W., et al. 2013. Combined features based on MT1-MMP expression, $CD11b^+$ immunocytes density and LNR predict clinical outcomes of gastric cancer. J. Transl. Med. 11: 153.
2. Gupta, R., et al. 2013. Posterior cordectomy: how much is enough? Ear Nose Throat J. 92: E42.
3. Fang, M., et al. 2013. *In vitro* invasive pattern of hepatocellular carcinoma cell line HCCLM9 based on three-dimensional cell culture and quantum dots molecular imaging. J. Huazhong Univ. Sci. Technolog Med. Sci. 33: 520-524.

RESEARCH USE

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