SANTA CRUZ BIOTECHNOLOGY, INC.

MMP-7 (MM0022-4C21): sc-101566

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. MMP-7 (also designated Pump-1, matrilysin or uterine metalloproteinase) degrades casein, Fibronectin and gelatin types I, III, IV and V. MMP-7 mRNA is produced exclusively by epithelial cells in mouse and expression is restricted to specific organs, suggesting that in addition to matrix degradation and remodeling, MMP-7 may be involved in the differentiated function of these organs.

REFERENCES

1. Muller, D., et al. 1988.The collagenase gene family in humans consists of at least four members. Biochem. J. 253: 187-192.
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. Imai, K., et al. 1995. Matrix metalloproteinase 7 (matrilysin) from human rectal carcinoma cells. Activation of the precursor, interaction with other matrix metalloproteinases and enzymic properties. J. Biol. Chem. 270: 6691-6697.
5. Wilson, C.L., et al. 1995. The metalloproteinase matrilysin is preferentially expressed by epithelial cells in a tissue-restricted pattern in the mouse. Mol. Biol. Cell 6: 851-869.
6. Machein, U., et al. 1997. Expression of several matrix metalloproteinase genes in human monocytic cells. Adv. Exp. Med. Biol. 421: 247-251.

CHROMOSOMAL LOCATION

Genetic locus: MMP7 (human) mapping to 11q22.2.

SOURCE

MMP-7 (MM0022-4C21) is a mouse monoclonal antibody raised against recombinant MMP-7 of human origin.

PRODUCT

Each vial contains 100 µg IgG_2 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

MMP-7 (MM0022-4C21) is recommended for detection of MMP-7 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); non cross-reactive with other MMPs.

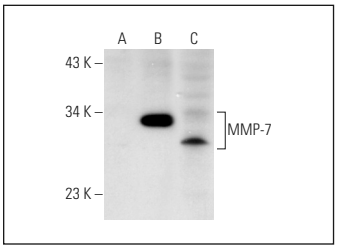
Suitable for use as control antibody for MMP-7 siRNA (h): sc-41553, MMP-7 shRNA Plasmid (h): sc-41553-SH and MMP-7 shRNA (h) Lentiviral Particles: sc-41553-V.

Molecular Weight of pro-MMP-7: 30 kDa.

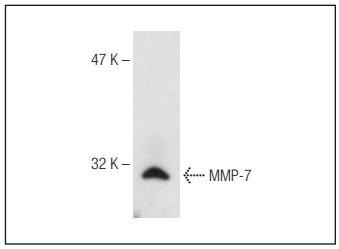
Molecular Weight of MMP-7 active form: 20 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, MMP-7 (h3): 293T Lysate: sc-158741 or MIA PaCa-2 cell lysate: sc-2285.

DATA



MMP-7 (MM0022-4C21): sc-101566. Western blot analysis of MMP-7 expression in non-transfected 293T: sc-117752 (**A**), human MMP-7 transfected 293T: sc-158741 (**B**) and HeLa (**C**) whole cell lysates.



MMP-7 (MM0022-4C21): sc-101566. Western blot analysis of MMP-7 expression in MIA PaCa-2 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Lee, Y.C., et al. 2010. Inhibitory effects of andrographolide on migration and invasion in human non-small cell lung cancer A549 cells via down-regulation of PI3K/Akt signaling pathway. Eur. J. Pharmacol. 632: 23-32.
2. Chen, L., et al. 2013. DKK1 promotes hepatocellular carcinoma cell migration and invasion through β-catenin/MMP-7 signaling pathway. Mol. Cancer 12: 157.
3. Garcia, A.J., et al. 2013. ERα signaling regulates MMP3 expression to induce FasL cleavage and osteoclast apoptosis. J. Bone Miner. Res. 28: 283-290.

RESEARCH USE

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