SANTA CRUZ BIOTECHNOLOGY, INC.

MMP-7 (ID2): sc-58388

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; Mmp7 (mouse) mapping to 9 A1.

SOURCE

MMP-7 (ID2) is a mouse monoclonal antibody raised against recombinant MMP-7 of human origin.

PRODUCT

Each vial contains 50 µg IgG_{2b} in 500 µl PBS with < 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.

RESEARCH USE

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

APPLICATIONS

MMP-7 (ID2) is recommended for detection of latent and active MMP-7 of mouse, rat and 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for MMP-7 siRNA (h): sc-41553, MMP-7 siRNA (m): sc-41554, MMP-7 siRNA (r): sc-108053, MMP-7 shRNA Plasmid (h): sc-41553-SH, MMP-7 shRNA Plasmid (m): sc-41554-SH, MMP-7 shRNA Plasmid (r): sc-108053-SH, MMP-7 shRNA (h) Lentiviral Particles: sc-41553-V, MMP-7 shRNA (m) Lentiviral Particles: sc-41554-V and MMP-7 shRNA (r) Lentiviral Particles: sc-108053-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.

SELECT PRODUCT CITATIONS

1. Zhang, Y., et al. 2017. Upregulation of KIN17 is associated with non-small cell lung cancer invasiveness. Oncol. Lett. 13: 2274-2280.
2. Bufu, T., et al. 2018. Celastrol inhibits colorectal cancer cell proliferation and migration through suppression of MMP3 and MMP7 by the PI3K/AKT signaling pathway. Anticancer Drugs 29: 530-538.
3. Liu, J., et al. 2019. Increased expression of psoriasin is correlated with poor prognosis of bladder transitional cell carcinoma by promoting invasion and proliferation. Oncol. Rep. 43: 562-570.

PROTOCOLS

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