SANTA CRUZ BIOTECHNOLOGY, INC.

Ac-MMP-9 (4A3): sc-21736

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-9 (also designated 92 kDa type IV collagenase or gelatinase B) has been shown to degrade bone collagens in concert with MMP-1 (also designated interstitial collagenase, fibroblast collagenase or collagenase-1), and cysteine proteases and may play a role in bone osteoclastic resorption. MMP-1 is downregulated by p53, and abnormality of p53 expression may contribute to joint degradation in rheumatoid arthritis by regulating MMP-1 expression.

REFERENCES

1. Templeton, N.S., et al. 1990. Cloning and characterization of human tumor cell interstitial collagenase. Cancer Res. 50: 5431-5437.
2. Birkedal-Hansen, H., et al. 1993. Matrix metalloproteinases: a review. Crit. Rev. Oral Biol. Med. 4: 197-250.

CHROMOSOMAL LOCATION

Genetic locus: MMP9 (human) mapping to 20q13.12.

SOURCE

Ac-MMP-9 (4A3) is a mouse monoclonal antibody raised against amino acids 107-115 of Ac-MMP-9 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.

APPLICATIONS

Ac-MMP-9 (4A3) is recommended for detection of acetylated MMP-9 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 non-acetylated MMP-9 or other lysine acetylation sites.

Suitable for use as control antibody for MMP-9 siRNA (h): sc-29400, MMP-9 shRNA Plasmid (h): sc-29400-SH and MMP-9 shRNA (h) Lentiviral Particles: sc-29400-V.

Santa Cruz Biotechnology offers several chemical inducers of acetylation, including: Apicidin (sc-202061), Panobinostat (sc-208148), Suberoylanilide Hydroxamic Acid (sc-220139), Oxamflatin (sc-205960), Ms-275 (sc-279455), M 344 (sc-203124), Scriptaid (sc-202807), Trapoxin A (sc-253730) and Trichostatin A (sc-3511).

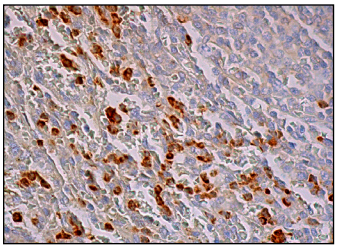
STORAGE

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.

DATA



Ac-MMP-9 (4A3): sc-21736. Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing cytoplasmic staining of subset of cells in red pulp.

SELECT PRODUCT CITATIONS

1. Ling, L., et al. 2018. High glucose induces podocyte epithelial-to-mesenchymal transition by demethylation mediated enhancement of MMP9 expression. Mol. Med. Rep. 17: 5642-5651.
2. Di, H., et al. 2018. Silencing LDHA inhibits proliferation, induces apoptosis and increases chemosensitivity to temozolomide in glioma cells. Oncol. Lett. 15: 5131-5136.
3. Ma, S., et al. 2018. TPX2 promotes cell proliferation and migration via PLK1 in OC. Cancer Biomark. 22: 443-451.
4. Wang, W., et al. 2019. Deoxypodophyllotoxin inhibits cell viability and invasion by blocking the PI3K/Akt signaling pathway in human glioblastoma cells. Oncol. Rep. 41: 2453-2463.
5. Wang, L., et al. 2019. Curcumin derivative WZ35 inhibits tumor cell growth via ROS-YAP-JNK signaling pathway in breast cancer. J. Exp. Clin. Cancer Res. 38: 460.
6. Chen, T., et al. 2020. The curcumin analogue WZ35 affects glycolysis inhibition of gastric cancer cells through ROS-YAP-JNK pathway. Food Chem. Toxicol. 137: 111131.
7. Zheng, R., et al. 2020. Upregulated microRNA-330-3p promotes calcification in the bicuspid aortic valve via targeting CREBBP. Mol. Med. Rep. 22: 2351-2363.
8. Wang, H., et al. 2020. Leptin upregulates the expression of β3-Integrin, MMP9, HB-EGF, and IL-1β in primary porcine endometrium epithelial cells *in vitro*. Int. J. Environ. Res. Public Health 17: 6508.
9. Liu, G. and Zeng, T. 2021. Sporoderm-removed *Ganoderma lucidum* spore powder may suppress the proliferation, migration, and invasion of esophageal squamous cell carcinoma cells through PI3K/AKT/mTOR and Erk pathway. Integr. Cancer Ther. 20: 15347354211062157.

ROTOCOLS

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