SANTA CRUZ BIOTECHNOLOGY, INC.

MMP-10 (LA-12): sc-80197

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-10, also known as Stromelysin-2, is expressed in small intestine and at lower levels in lung and heart. MMP-10 functions similarly to MMP-3 in that it can degrade Fibronectin and gelatins type I, III, IV and IV, however its action on collagens III, IV and V is very weak. Significantly, expression of MMP-10 is upregulated in ras-transformed HaCaT II-4 keratinocytes, therefore enabling the cells to undergo epithelial-to-mesenchymal transition. This evidence suggests that MMP-10, as well as other matrix metalloproteinases, may play a significant role in tumor metastasis.

REFERENCES

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2. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 185260. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. McGowan, P.M. and Duffy, M.J. 2008. Matrix metalloproteinase expression and outcome in patients with breast cancer: analysis of a published database. Ann. Oncol. 19: 1566-1572.
4. Järvinen, K., et al. 2008. Selective iNOS inhibitor 1400W enhances anti-catabolic IL-10 and reduces destructive MMP-10 in OA cartilage. Survey of the effects of 1400W on inflammatory mediators produced by OA cartilage as detected by protein antibody array. Clin. Exp. Rheumatol. 26: 275-282.
5. Páramo, J.A., et al. 2008. Association between matrix metalloproteinase-10 concentration and smoking in individuals without cardiovascular disease. Rev. Esp. Cardiol. 61: 1267-1273.

CHROMOSOMAL LOCATION

Genetic locus: MMP10 (human) mapping to 11q22.2.

SOURCE

MMP-10 (LA-12) is a mouse monoclonal antibody raised against amino acids 99-486 of MMP-10 of human origin.

PRODUCT

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

STORAGE

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

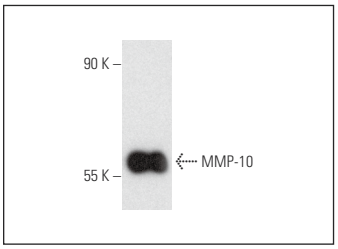
APPLICATIONS

MMP-10 (LA-12) is recommended for detection of pro and mature MMP-10 of 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells); may cross-react with MMP-3; non cross-reactive with MMP-1, MMP-2, MMP-7, MMP-8, MMP-12 or MMP-13.

Suitable for use as control antibody for MMP-10 siRNA (h): sc-41555, MMP-10 shRNA Plasmid (h): sc-41555-SH and MMP-10 shRNA (h) Lentiviral Particles: sc-41555-V.

Molecular Weight of MMP-10: 57 kDa.

DATA



MMP-10 (LA-12): sc-80197. Western blot analysis of human recombinant MMP-10.

SELECT PRODUCT CITATIONS

1. Hino, M., et al. 2016. Transforming growth factor-β1 induces invasion ability of HSC-4 human oral squamous cell carcinoma cells through the Slug/Wnt-5b/MMP-10 signalling axis. J. Biochem. 159: 631-640.
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3. Kim, K.M. and Jung, J. 2020. Upregulation of G protein-coupled estrogen receptor by chrysin-nanoparticles inhibits tumor proliferation and metastasis in triple negative breast cancer xenograft model. Front. Endocrinol. 11: 560605.
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5. Bae, S., et al. 2021. β-carotene inhibits expression of matrix metalloproteinase-10 and invasion in *Helicobacter pylori*-infected gastric epithelial cells. Molecules 26: 1567.
6. Zhang, Q., et al. 2023. The prognostic value of ADAMTS8 and its role as a tumor suppressor in breast cancer. Cancer Invest. 41: 119-132.

RESEARCH USE

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