SANTA CRUZ BIOTECHNOLOGY, INC.

MMP-3 (1B4): sc-21732

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-3, MMP-10 and MMP-11 (also designated stromelysin-1, 2 and 3, respectively) activate procollagenase. MMP-3 activation of procollagenase can occur via two pathways. Direct activation by MMP-3 is slow and activation by MMP-3 in conjunction with tissue or plasma proteinases is rapid. MMP-10 is expressed in small intestine, and at lower levels in lung and heart. MMP-11 is specifically expressed in stromal cells of breast carcinomas and contributes to epithelial cell malignancies.

CHROMOSOMAL LOCATION

Genetic locus: MMP3 (human) mapping to 11q22.2; Mmp3 (mouse) mapping to 9 A1.

SOURCE

MMP-3 (1B4) is a mouse monoclonal antibody raised against amino acids 317-327 of MMP-3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MMP-3 (1B4) is available conjugated to agarose (sc-21732 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-21732 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-21732 PE), fluorescein (sc-21732 FITC), Alexa Fluor® 488 (sc-21732 AF488), Alexa Fluor® 546 (sc-21732 AF546), Alexa Fluor® 594 (sc-21732 AF594) or Alexa Fluor® 647 (sc-21732 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-21732 AF680) or Alexa Fluor® 790 (sc-21732 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

MMP-3 (1B4) is recommended for detection of MMP-3 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)], 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 MMP-3 siRNA (h): sc-29399, MMP-3 siRNA (m): sc-37265, MMP-3 shRNA Plasmid (h): sc-29399-SH, MMP-3 shRNA Plasmid (m): sc-37265-SH, MMP-3 shRNA (h) Lentiviral Particles: sc-29399-V and MMP-3 shRNA (m) Lentiviral Particles: sc-37265-V.

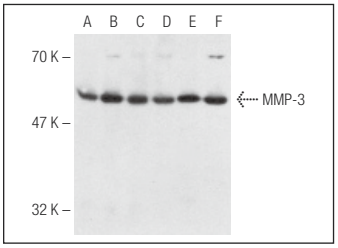
Molecular Weight of MMP-3: 57 kDa.

Positive Controls: HT-1080 whole cell lysate: sc-364183, HUV-EC-C whole cell lysate: sc-364180 or WI-38 whole cell lysate: sc-364260.

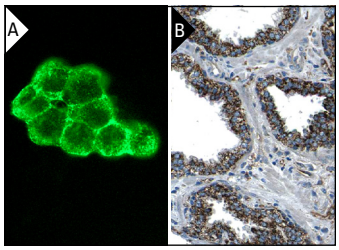
STORAGE

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

DATA



MMP-3 (1B4): sc-21732. Western blot analysis of MMP-3 expression in HT-1080 (**A**), ECV304 (**B**), HUV-EC-C (**C**), WI-38 (**D**), BJ (**E**) and CCD-1064SK (**F**) whole cell lysates.



MMP-3 (1B4): sc-21732. Immunofluorescence staining of methanol-fixed Y-79 cells showing membrane staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate tissue showing cytoplasmic staining of glandular cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Borsani, E., et al. 2005. Histochemical and immunohistochemical evaluation of gingival collagen and metalloproteinases in peri-implantitis. Acta Histochem. 107: 231-240.
2. Moore, R.M., et al. 2010. α-lipoic acid inhibits thrombin-induced fetal membrane weakening *in vitro*. Placenta 31: 886-892.
3. Callahan, L.A., et al. 2013. Primary human chondrocyte extracellular matrix formation and phenotype maintenance using RGD-derivatized PEGDM hydrogels possessing a continuous Young's modulus gradient. Acta Biomater. 9: 6095-6104.
4. Di Nisio, C., et al. 2015. A dual role for β1 Integrin in an *in vitro Streptococcus mitis*/human gingival fibroblasts co-culture model in response to TEGDMA. Int. Endod. J. 48: 839-849.
5. Ichinose, J., et al. 2016. Immunohistochemical pattern analysis of squamous cell carcinoma: lung primary and metastatic tumors of head and neck. Lung Cancer 100: 96-101.
6. Neuhaus, J., et al. 2017. Protease expression levels in prostate cancer tissue can explain prostate cancer-associated seminal biomarkers-an explorative concept study. Int. J. Mol. Sci. 18: 976.
7. Jiang, J., et al. 2018. Oncogenic activity of Insulin in the development of non-small cell lung carcinoma. Oncol. Lett. 15: 447-452.
8. Spychala, A. and Rüther, U. 2019. FTO affects hippocampal function by regulation of BDNF processing. PLoS ONE 14: e0211937.
9. Li, X., et al. 2020. Tougu Xiaotong capsules may inhibit p38 MAPK pathway-mediated inflammation: *in vivo* and *in vitro* verification. J. Ethnopharmacol. 249: 112390.

RESEARCH USE

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