

MMP-1 (3B6): sc-21731

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 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.

CHROMOSOMAL LOCATION

Genetic locus: MMP1 (human) mapping to 11q22.2.

SOURCE

MMP-1 (3B6) is a mouse monoclonal antibody raised against amino acids 366-376 of MMP-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MMP-1 (3B6) is available conjugated to agarose (sc-21731 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to either Alexa Fluor® 546 (sc-21731 AF546) or Alexa Fluor® 594 (sc-21731 AF594), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-21731 AF680) or Alexa Fluor® 790 (sc-21731 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

MMP-1 (3B6) is recommended for detection of MMP-1 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MMP-1 siRNA (h): sc-41552, MMP-1 shRNA Plasmid (h): sc-41552-SH and MMP-1 shRNA (h) Lentiviral Particles: sc-41552-V.

Molecular Weight of MMP-1: 52 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or HUV-EC-C whole cell lysate: sc-364180.

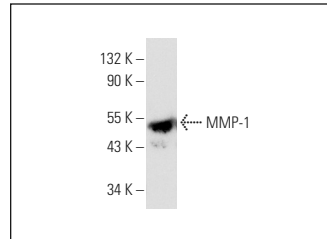
STORAGE

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



MMP-1 (3B6): sc-21731. Western blot analysis of human recombinant MMP-1.

SELECT PRODUCT CITATIONS

- Murray, G.I., et al. 1998. Matrix metalloproteinases and their inhibitors in gastric cancer. *Gut* 43: 791-797.
- Peng, H.H., et al. 2012. MMP-1/PAR-1 signal transduction axis and its prognostic impact in esophageal squamous cell carcinoma. *Braz. J. Med. Biol. Res.* 45: 86-92.
- Yang, R., et al. 2013. Combined upregulation of matrix metalloproteinase-1 and proteinase-activated receptor-1 predicts unfavorable prognosis in human nasopharyngeal carcinoma. *Onco Targets Ther.* 6: 1139-1146.
- Takwi, A.A., et al. 2014. miR-137 regulates the constitutive androstane receptor and modulates doxorubicin sensitivity in parental and doxorubicin-resistant neuroblastoma cells. *Oncogene* 33: 3717-3729.
- Xu, Q., et al. 2015. Heat stress-induced disruption of endothelial barrier function is via PAR1 signaling and suppressed by Xuebijing injection. *PLoS ONE* 10: e0118057.
- Kim, Y.M., et al. 2016. Anti-wrinkle effects of a tuna heart H₂O fraction on Hs27 human fibroblasts. *Int. J. Mol. Med.* 37: 92-98.
- Kim, C.R., et al. 2017. *Pyropia yezoensis* peptide promotes collagen synthesis by activating the TGF-β/Smad signaling pathway in the human dermal fibroblast cell line Hs27. *Int. J. Mol. Med.* 39: 31-38.
- Deng, H., et al. 2018. HPV16-immortalized cells from human transformation zone and endocervix are more dysplastic than ectocervical cells in organotypic culture. *Sci. Rep.* 8: 15402.
- Yang, H.W., et al. 2019. The DNA repair domain of human rpS3 protects against photoaging by removing cyclobutane pyrimidine dimers. *FEBS Lett.* 593: 2060-2068.
- Baptista, J.S., et al. 2020. Expression of degenerative markers in intervertebral discs of young and elderly asymptomatic individuals. *PLoS ONE* 15: e0228155.

PROTOCOLS

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