

MMP-13 (C-3): sc-515284

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-13 (also designated collagenase-3) is produced by breast carcinomas and degrades collagen types I, II and III. MMP-13 has wide substrate specificity, and its physiologic expression is limited to situations in which rapid and effective remodeling of collagenous ECM takes place, such as fetal bone development and adult bone remodeling.

REFERENCES

1. Birkedal-Hansen, H., et al. 1993. Matrix metalloproteinases: a review. *Crit. Rev. Oral Biol. Med.* 4: 197-250.
2. 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.

CHROMOSOMAL LOCATION

Genetic locus: MMP13 (human) mapping to 11q22.2.

SOURCE

MMP-13 (C-3) is a mouse monoclonal antibody raised against amino acids 242-471 mapping at the C-terminus of MMP-13 of human origin.

PRODUCT

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

MMP-13 (C-3) is available conjugated to agarose (sc-515284 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515284 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515284 PE), fluorescein (sc-515284 FITC), Alexa Fluor® 488 (sc-515284 AF488), Alexa Fluor® 546 (sc-515284 AF546), Alexa Fluor® 594 (sc-515284 AF594) or Alexa Fluor® 647 (sc-515284 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515284 AF680) or Alexa Fluor® 790 (sc-515284 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

MMP-13 (C-3) is recommended for detection of MMP-13 of human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

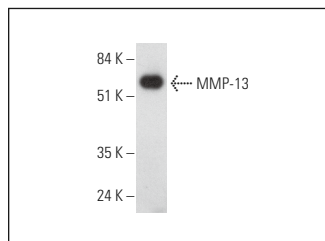
Suitable for use as control antibody for MMP-13 siRNA (h): sc-41559, MMP-13 shRNA Plasmid (h): sc-41559-SH and MMP-13 shRNA (h) Lentiviral Particles: sc-41559-V.

Molecular Weight of MMP-13: 48 kDa.

STORAGE

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

DATA



MMP-13 (C-3): sc-515284. Western blot analysis of human recombinant MMP-13.

SELECT PRODUCT CITATIONS

1. Hu, P.F., et al. 2018. Paeoniflorin inhibits IL-1 β -induced MMP secretion via the NF κ B pathway in chondrocytes. *Exp. Ther. Med.* 16: 1513-1519.
2. Guo, L., et al. 2019. Ipriflavone attenuates the degeneration of cartilage by blocking the Indian hedgehog pathway. *Arthritis Res. Ther.* 21: 109.
3. Zhu, B., et al. 2019. Desumoylation of aggrecan and collagen II facilitates degradation via aggrecanases in IL-1 β -mediated osteoarthritis. *J. Pain Res.* 12: 2145-2153.
4. Basukala, O., et al. 2019. The HPV-18 E7 CKII phospho acceptor site is required for maintaining the transformed phenotype of cervical tumour-derived cells. *PLoS Pathog.* 15: e1007769.
5. Killian, M.L., et al. 2019. Novel model for the induction of postnatal murine hip deformity. *J. Orthop. Res.* 37: 151-160.
6. Terabe, K., et al. 2019. Chondroprotective effects of 4-methylumbelliferone and hyaluronan synthase-2 overexpression involve changes in chondrocyte energy metabolism. *J. Biol. Chem.* 294: 17799-17817.
7. Chien, S.Y., et al. 2020. Noggin inhibits IL-1 β and BMP-2 expression, and attenuates cartilage degeneration and subchondral bone destruction in experimental osteoarthritis. *Cells* 9: 927.
8. Gao, H., et al. 2020. Sialidroside alleviates cartilage degeneration through NF κ B pathway in osteoarthritis rats. *Drug Des. Devel. Ther.* 14: 1445-1454.
9. Zhao, Y., et al. 2020. Cortistatin protects against intervertebral disc degeneration through targeting mitochondrial Ros-dependent NLRP3 inflammasome activation. *Theranostics* 10: 7015-7033.
10. Santarella, F., et al. 2020. Scaffolds functionalized with matrix from induced pluripotent stem cell fibroblasts for diabetic wound healing. *Adv. Healthc. Mater.* 9: e2000307.

RESEARCH USE

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