

MMP-12 (A-2): sc-133151

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-12 (also designated macrophage metalloelastase) is produced in alveolar macrophages and degrades elastin. MMP-12 may contribute to elastin degradation occurring in granulomatous skin diseases and may also participate in macrophage migration through the epidermal and vascular basement membranes in inflammatory disorders.

REFERENCES

1. Shapiro, S.D., et al. 1992. Molecular cloning, chromosomal localization, and bacterial expression of a murine macrophage metalloelastase. *J. Biol. Chem.* 267: 4664-4671.
2. Birkedal-Hansen, H., et al. 1993. Matrix metalloproteinases: a review. *Crit. Rev. Oral Biol. Med.* 4: 197-250.
3. Shapiro, S.D., et al. 1993. Cloning and characterization of a unique elastolytic metalloproteinase produced by human alveolar macrophages. *J. Biol. Chem.* 268: 23824-23829.
4. 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.
5. Machein, U. and Conca, W. 1997. Expression of several matrix metalloproteinase genes in human monocytic cells. *Adv. Exp. Med. Biol.* 421: 247-251.
6. Vaalamo, M., et al. 1999. Enhanced expression of human metalloelastase (MMP-12) in cutaneous granulomas and macrophage migration. *J. Invest. Dermatol.* 112: 499-505.

CHROMOSOMAL LOCATION

Genetic locus: MMP12 (human) mapping to 11q22.2.

SOURCE

MMP-12 (A-2) is a mouse monoclonal antibody raised against amino acids 171-470 mapping at the C-terminus of MMP-12 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MMP-12 (A-2) is available conjugated to agarose (sc-133151 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-133151 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133151 PE), fluorescein (sc-133151 FITC), Alexa Fluor[®] 488 (sc-133151 AF488), Alexa Fluor[®] 546 (sc-133151 AF546), Alexa Fluor[®] 594 (sc-133151 AF594) or Alexa Fluor[®] 647 (sc-133151 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-133151 AF680) or Alexa Fluor[®] 790 (sc-133151 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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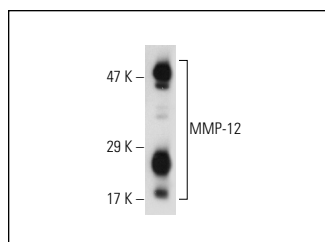
APPLICATIONS

MMP-12 (A-2) is recommended for detection of MMP-12 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); partially cross reactive with other MMP family members.

Suitable for use as control antibody for MMP-12 siRNA (h): sc-41557, MMP-12 shRNA Plasmid (h): sc-41557-SH and MMP-12 shRNA (h) Lentiviral Particles: sc-41557-V.

Molecular Weight of MMP-12: 48 kDa.

DATA



MMP-12 (A-2): sc-133151. Western blot analysis of human recombinant MMP-12 under reducing conditions.

SELECT PRODUCT CITATIONS

1. Didangelos, A., et al. 2011. Extracellular matrix composition and remodeling in human abdominal aortic aneurysms: a proteomics approach. *Mol. Cell. Proteomics* 10: M111.008128.
2. Xu, L., et al. 2018. SPINK1 promotes cell growth and metastasis of lung adenocarcinoma and acts as a novel prognostic biomarker. *BMB Rep.* 51: 648-653.
3. Jiang, L., et al. 2020. Knockdown of Linc00511 inhibits TGF-β-induced cell migration and invasion by suppressing epithelial-mesenchymal transition and down-regulating MMPs expression. *Biomed. Pharmacother.* 125: 109049.

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.

PROTOCOLS

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