

# MMP-12 (M-19): sc-8839

## 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

- Shapiro, S.D., et al. 1992. Molecular cloning, chromosomal localization, and bacterial expression of a murine macrophage metalloelastase. *J. Biol. Chem.* 267: 4664-4671.
- Birkedal-Hansen, H., et al. 1993. Matrix metalloproteinases: a review. *Crit. Rev. Oral Biol. Med.* 4: 197-250.
- 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.

## CHROMOSOMAL LOCATION

Genetic locus: *Mmp12* (mouse) mapping to 9 A1.

## SOURCE

MMP-12 (M-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of MMP-12 of mouse origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-8839 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MMP-12 (M-19) is recommended for detection of MMP-12 of mouse and rat 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MMP-12 siRNA (m): sc-41558, MMP-12 shRNA Plasmid (m): sc-41558-SH and MMP-12 shRNA (m) Lentiviral Particles: sc-41558-V.

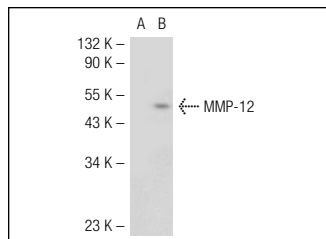
Molecular Weight of MMP-12: 48 kDa.

Positive Controls: MMP-12 (m): 293T Lysate: sc-121694.

## STORAGE

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

## DATA



MMP-12 (M-19): sc-8839. Western blot analysis of MMP-12 expression in non-transfected: sc-117752 (A) and mouse MMP-12 transfected: sc-121694 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Churg, A., et al. 2007.  $\alpha$ 1-antitrypsin suppresses TNF $\alpha$  and MMP-12 production by cigarette smoke-stimulated macrophages. *Am. J. Respir. Cell Mol. Biol.* 37: 144-151.
- Wright, J.L., et al. 2007. Cigarette smoke upregulates pulmonary vascular matrix metalloproteinases via TNF- $\alpha$  signaling. *Am. J. Physiol. Lung Cell Mol. Physiol.* 292: L125-L133.
- Brass, D.M., et al. 2008. Fibroproliferation in LPS-induced airway remodeling and bleomycin-induced fibrosis share common patterns of gene expression. *Immunogenetics* 60: 353-369.
- Morimoto, T., et al. 2008. The expression of macrophage and neutrophil elastases in rat periradicular lesions. *J. Endod.* 34: 1072-1076.
- Chapoval, S.P., et al. 2009. Lung vascular endothelial growth factor expression induces local myeloid dendritic cell activation. *Clin. Immunol.* 132: 371-384.
- Iwanami, H., et al. 2009. Expression of matrix metalloproteinases (MMP)-12 by myofibroblasts during alkali-burned corneal wound healing. *Curr. Eye Res.* 34: 207-214.
- Suryawanshi, A., et al. 2011. Ocular neovascularization caused by herpes simplex virus type 1 infection results from breakdown of binding between vascular endothelial growth factor A and its soluble receptor. *J. Immunol.* 186: 3653-3665.

## RESEARCH USE

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

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Try **MMP-12 (G-2): sc-390863** or **MMP-12 (H-9): sc-390284**, our highly recommended monoclonal alternatives to MMP-12 (M-19).