

# MMP-12 (K-15): sc-12361

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

MMP-12 (K-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of MMP-12 of human 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-12361 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

MMP-12 (K-15) is recommended for detection of MMP-12 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).

MMP-12 (K-15) is also recommended for detection of MMP-12 in additional species, including equine and canine.

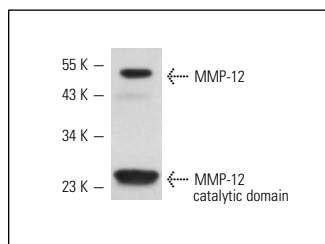
Suitable for use as control antibody for MMP-12 siRNA (h): sc-41557, MMP-12 shRNA Plasmid (h): sc-41557-SH and MMP-12 shRNA (h) Lentiviral Particles: sc-41557-V.

Molecular Weight of MMP-12: 48 kDa.

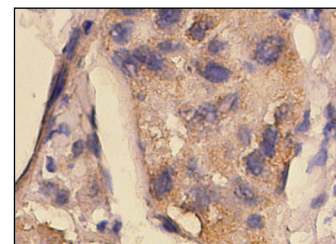
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



MMP-12 (K-15): sc-12361. Western blot analysis of human recombinant MMP-12. Note catalytic domain (~25 kDa) generated by autoproteolysis.



MMP-12 (K-15): sc-12361. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tumor showing cytoplasmic and extracellular localization.

## SELECT PRODUCT CITATIONS

1. Babusyte, A., et al. 2007. Patterns of airway inflammation and MMP-12 expression in smokers and ex-smokers with COPD. *Respir. Res.* 8: 81.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

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Try **MMP-12 (A-2): sc-133151**, our highly recommended monoclonal alternative to MMP-12 (K-15).