SANTA CRUZ BIOTECHNOLOGY, INC.

MMP-12 (E-16): sc-31805

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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., et al. 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 (E-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region 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-31805 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

MMP-12 (E-16) is recommended for detection of precursor and mature MMP-12 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (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: 59 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) 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.

RESEARCH USE

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

PROTOCOLS

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