SANTA CRUZ BIOTECHNOLOGY, INC.

MMP-1 (N-17)-R: sc-8834-R

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-9 (also designated gelatinase B) has been shown to degrade bone collagens in concert with MMP-1 (also designated interstitial collagenase, fibroblast collagenase or collagenase-1), and cysteine proteases and may play a role in bone osteoclastic resorption. MMP-1 is downregulated by p53, and abnormality of p53 expression may contribute to joint degradation in rheumatoid arthritis by regulating MMP-1 expression.

REFERENCES

1. Templeton, N.S., et al. 1990. Cloning and characterization of human tumor cell interstitial collagenase. Cancer Res. 50: 5431-5437.
2. Birkedal-Hansen, H., et al. 1993. Matrix metalloproteinases: a review. Crit. Rev. Oral Biol. Med. 4: 197-250.
3. 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.
4. Reponen, P., et al. 1994. High expression of 92 kDa type IV collagenase (gelatinase B) in the osteoclast lineage during mouse development. J. Cell Biol. 124: 1091-1102.
5. Okada, Y., et al. 1995. Localization of matrix metalloproteinase 9 (92 kDa gelatinase/type IV collagenase=gelatinase B) in osteoclasts: implications for bone resorption. Lab. Invest. 72: 311-322.

CHROMOSOMAL LOCATION

Genetic locus: MMP1 (human) mapping to 11q22.2.

SOURCE

MMP-1 (N-17)-R is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of MMP-1 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-8834 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.

RESEARCH USE

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

APPLICATIONS

MMP-1 (N-17)-R is recommended for detection of MMP-1 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).

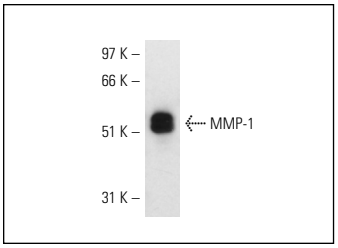
MMP-1 (N-17)-R is also recommended for detection of MMP-1 in additional species, including equine and porcine.

Suitable for use as control antibody for MMP-1 siRNA (h): sc-41552, MMP-1 shRNA Plasmid (h): sc-41552-SH and MMP-1 shRNA (h) Lentiviral Particles: sc-41552-V.

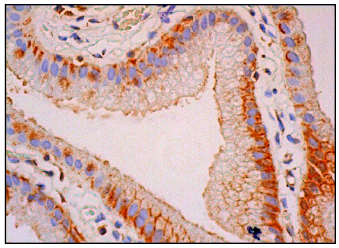
Molecular Weight of MMP-1: 52 kDa.

Positive Controls: HUV-EC-C whole cell lysate: sc-364180 or HeLa whole cell lysate: sc-2200.

DATA



MMP-1 (N-17)-R: sc-8834-R. Western blot analysis of human recombinant MMP-1.



MMP-1 (N-17)-R: sc-8834-R. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic and membrane staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Qin, Z., et al. 2014. Age-associated reduction of cellular spreading/mechanical force up-regulates matrix metalloproteinase-1 expression and collagen fibril fragmentation via c-Jun/AP-1 in human dermal fibroblasts. Aging Cell 13: 1028-1037.
2. Zhou, Y., et al. 2014. Matrix metalloproteinase-1 (MMP-1) expression in rat spinal cord injury model. Cell. Mol. Neurobiol. 34: 1151-1163.

PROTOCOLS

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