SANTA CRUZ BIOTECHNOLOGY, INC.

MMP-3/10 (H-300): sc-30070

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-3, MMP-10 and MMP-11 (also designated stromelysin-1, 2 and 3, respectively) activate procollagenase. MMP-3 activation of procollagenase can occur via two pathways. Direct activation by MMP-3 is slow and activation by MMP-3 in conjunction with tissue or plasma proteinases is rapid. MMP-10 is expressed in small intestine, and at lower levels in lung and heart. MMP-11 is specifically expressed in stromal cells of breast carcinomas and contributes to epithelial cell malignancies.

REFERENCES

1. Saus, J., et al. 1988. The complete primary structure of human matrix metalloproteinase-3. Identity with stromelysin. J. Biol. Chem. 263: 6742-6745.
2. Suzuki, K., et al. 1990. Mechanisms of activation of tissue procollagenase by matrix metalloproteinase 3 (stromelysin). Biochemistry 29: 10261-10270.
3. Basset, P., et al. 1990. A novel metalloproteinase gene specifically expressed in stromal cells of breast carcinomas. Nature 348: 699-704.
4. Birkedal-Hansen, et al. 1993. Matrix metalloproteinases: a review. Crit. Rev. Oral. Biol. Med. 4: 197-250.
5. 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.
6. Knauper, V., et al. 1996. Activation of human neutrophil procollagenase by stromelysin 2. Eur. J. Biochem. 235: 187-191.

CHROMOSOMAL LOCATION

Genetic locus: MMP3/MMP10 (human) mapping to 11q22.2; Mmp3/Mmp10 (mouse) mapping to 9 A1.

SOURCE

MMP-3/10 (H-300) is a rabbit polyclonal antibody raised against amino acids 178-477 mapping at the C-terminus of MMP-3 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.

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 or our catalog for detailed protocols and support products.

APPLICATIONS

MMP-3/10 (H-300) is recommended for detection of MMP-3 and MMP-10 of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

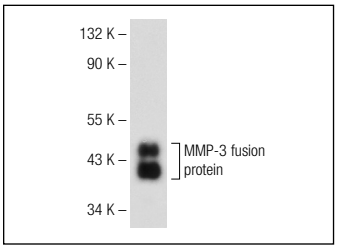
Molecular Weight of MMP-3/10: 57 kDa.

Positive Controls: Y79 cell lysate: sc-2240 or rat placenta tissue extract.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



MMP-3/10 (H-300): sc-30070. Western blot analysis of human recombinant MMP-3 fusion protein.

SELECT PRODUCT CITATIONS

1. Fini, M.A., et al. 2008. Migratory activity of human breast cancer cells is modulated by differential expression of xanthine oxidoreductase. J. Cell. Biochem. 105: 1008-1026.

RESEARCH USE

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