

MMP-3 (C-19): sc-6839

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.

CHROMOSOMAL LOCATION

Genetic locus: MMP3 (human) mapping to 11q22.3; Mmp3 (mouse) mapping to 9 A1.

SOURCE

MMP-3 (C-19) is available as either goat (sc-6839) or rabbit (sc-6839-R) polyclonal affinity purified antibody raised against a peptide 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.

Blocking peptide available for competition studies, sc-6839 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MMP-3 (C-19) is recommended for detection of MMP-3 and, to a lesser extent, a broad range of MMP family members 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), 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-3 (C-19) is also recommended for detection of MMP-3 and, to a lesser extent, a broad range of MMP family members in additional species, including equine, canine, bovine and porcine.

Molecular Weight of MMP-3: 55 kDa.

Positive Controls: human breast tumor, Y79 cell lysate: sc-2240 or rat placenta tissue extract.

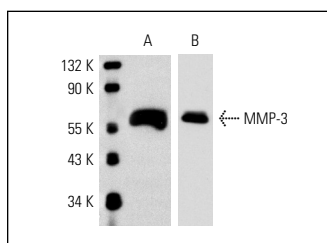
STORAGE

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

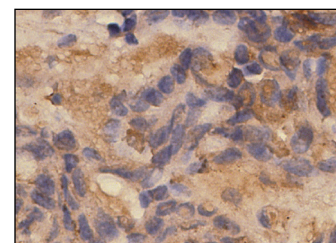
RESEARCH USE

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

DATA



Western blot analysis of human recombinant MMP-3. Antibodies tested include MMP-3 (C-19): sc-6839 (A) and MMP-3 (C-19)-R: sc-6839-R (B).



MMP-3 (C-19): sc-6839. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tumor showing extracellular matrix localization.

SELECT PRODUCT CITATIONS

1. Yu, C.Y., et al. 2002. Stat3 activation is required for interleukin-6 induced transformation in tumor-promotion sensitive mouse skin epithelial cells. *Oncogene* 21: 3949-3960.
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3. Herrera, V.M., et al. 2003. Hypertension exacerbates coronary artery disease in transgenic hyperlipidemic Dahl salt-sensitive hypertensive rats. *Mol. Med.* 12: 831-844.
4. Xu, L., et al. 2003. Osteoarthritis-like changes and decreased mechanical function of articular cartilage in the joints of mice with the chondrodysplasia gene (cho). *Arthritis Rheum.* 48: 2509-2518.
5. Park, C.H., et al. 2004. Heat shock-induced matrix metalloproteinase (MMP)-1 and MMP-3 are mediated through ERK and JNK activation and via an autocrine interleukin-6 loop. *J. Invest. Dermatol.* 123: 1012-1019.
6. Kim, Y.S., et al. 2005. Matrix metalloproteinase-3: a novel signaling proteinase from apoptotic neuronal cells that activates microglia. *J. Neurosci.* 25: 3701-3711.
7. Kim, Y.S., et al. 2007. A pivotal role of matrix metalloproteinase-3 activity in dopaminergic neuronal degeneration via microglial activation. *FASEB J.* 21: 179-187.
8. Lam, N.P., et al. 2007. Age-dependent increase of discoidin domain receptor 2 and matrix metalloproteinase 13 expression in temporomandibular joint cartilage of type IX and type XI collagen-deficient mice. *Arch Oral Biol.* 52: 579-584.
9. Christophi, G.P., et al. 2008. Modulation of macrophage infiltration and inflammatory activity by the phosphatase SHP-1 in virus-induced demyelinating disease. *J. Virol.* 83: 522-539.
10. Menchén, L., et al. 2009. Matrix metalloproteinase 9 is involved in Crohn's disease-associated platelet hyperactivation through the release of soluble CD40 ligand. *Gut* 58: 920-928.