

AF9110

Monoclonal Antibody to MMP-1 (active) - Purified

Alternate names:

CLG, Fibroblast collagenase, Interstitial collagenase, MMP1, Matrix metalloproteinase-1

Quantity:

0.1 mg

Concentration:

0.5 mg/ml

Background:

The matrix metalloproteinases (MMPs) are a family of at least eighteen secreted and membrane bound zincendopeptidases. Collectively, these enzymes can degrade all the components of the extracellular matrix, including fibrillar and non fibrillar collagens, fibronectin, laminin and basement membrane glycoproteins. In general, a signal peptide, a propeptide, and a catalytic domain containing the highly conserved zinc binding site characterizes the structure of the MMPs. In addition, fibronectin like repeats, a hinge region, and a C terminal hemopexin like domain allow categorization of MMPs into the collagenase, gelatinase, stomelysin and membrane type MMP subfamilies. All MMPs are synthesized as proenzymes, and most of them are secreted from the cells as proenzymes. Thus, the activation of these proenzymes is a critical step that leads to extracellular matrix breakdown. MMPs are considered to play an important role in wound healing, apoptosis, bone elongation, embryo development, uterine involution, angiogenesis and tissue remodeling, and in diseases such as multiple sclerosis, Alzheimer's, malignant gliomas, lupus, arthritis, periodontitis, glomerulonephritis, atherosclerosis, tissue ulceration, and in cancer cell invasion and metastasis.

MMP1, also known as interstitial collagenase, is the only enzyme that is able to initiate the breakdown of the interstitial collagens, types I, II, and III.

Uniprot ID:
[P03956](#)
NCBI:
[NP_002412.1](#)
GeneID:
[4312](#)
Host / Isotype:

Mouse / IgG2b

Recommended Isotype

SM12P, AM03110PU-N

Controls:
Clone:

195-1H6

Immunogen:

A peptide (FVLTEGN, R81-87) of Human Interstitial Collagenase (hMMP-1).

Format:
State: Liquid purified Ig fraction

Purification: Affinity Chromatography on Protein A

Buffer System: 0.1M Sodium Phosphate buffer, pH 7.0

Preservatives: 0.09% Sodium Azide

Stabilizers: 0.5% BSA (Protease-free)

Applications:
Western blotting.
Immunohistochemistry on Paraffin Sections: 2 µg/ml.

Heat induced antigen retrieval with citrat buffer, pH 6.2 using a pressure cooker was preformed. Sections were blocking using a commercially available casein solution.

Signal was generated using a commercially available polymer HRP detection system and DAB.

Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity:

The antibody specifically reacts with active form of hMMP-1, but not with precursor form of hMMP-1

Species Reactivity:

Tested: Human.

Storage:

Store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.
Avoid repeated freeze-thaw cycles.
Shelf life: One year from despatch.

General Readings:

1. Zhang, J. et al. A one-step sandwich enzyme immunoassay for human matrix metalloproteinase 1 (interstitial collagenase) using monoclonal antibodies. *Cin. Chim. Acta.* 219. 1-14, 1993.
2. Birkedal-Hansen, H. et al. Matrix metalloproteinases: a review. *Crit. Rev. Oral. Biol. Med.*, 4. 197-250, 1993.

Pictures:

Staining of FFPE Human prostate cancer (10x and 40x) with MMP-1 Antibody Cat.-No AF9110 (Clone 195-1H6) at 2 µg/ml. Antibody positive in the cytoplasm of epithelial cells and in stroma.

