

AM08197PU-N**Monoclonal Antibody to MMP-1 - 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:**

SB12e

Immunogen:

Recombinant MMP-1.

Format:**State:** Liquid purified Ig fraction**Buffer System:** 100 mM Borate buffered saline, pH 8.2.

No preservatives or amine-containing buffer salts added.

Applications:**ELISA:** 1/3,000-1/8,000.**Western Blot.****Immunohistochemistry (Frozen/Paraffin):** ≤ 2 µg/ml.

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

- Specificity:** This antibody is specific for Human MMP-1.
Does not cross react with Human MMP-2, MMP-3 or MMP-9.
Other species not tested.
- Add. Information:** **Predicted Molecular Weight:** 54 kDa.
- Storage:** Store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.
- General Readings:**
1. Welgus, H.G., C.J. Fliszar, J.L. Seltzer, T.M. Schmid, and J.J. Jeffery. 1990. *J. Biol. Chem.* 265:13521.
 2. Fosang, A.J., K. Last, V. Knauper, P.J. Neame, G. Murphy, T.E. Hardingham, H. Tschesche, and J.A. Hamilton. 1993. *Biochem. J.* 295:273.
 3. Perides, G., R.A. Asher, M.W. Lark, W.S. Lane, R.A. Robinson, and A. Bignami. 1995. *Biochem. J.* 312:377.
 4. Nguyen, Q., G. Murphy, C.E. Hughes, J.S. Mort, and P.J. Roughley. 1993. *Biochem. J.* 295:595.
 5. Imai, K., M. Kusakabe, T. Sakakura, I. Nakanishi, and Y. Okada. 1994. *FEBS Letters* 352:216.
 6. Sires, U.I., G. Murphy, V.M. Baragi, C.J. Fliszar, H.G. Welhus, and R.M. Senior. 1994. *Biochem. Biophys. Res. Comm.* 204:613.
 7. Desrochers, P.E., J.J. Jeffery, and S.J. Weiss. 1991. *J. Clin. Invest.* 87:2258.
 8. Mast, A.E., J.J. Enghild, H. Nagase, K. Suzuki, S.V. Pizzo, and G. Salvesen. 1991. *J. Biol. Chem.* 266:15810.
 9. Sires, U.I., G.L. Griffin, T.J. Broekelmann, R.P. Mecham, G. Murphy, A.E. Ching, H.G. Welhus, and R.M. Senior. 1993. *J. Biol. Chem.* 268:2069.
 10. Preece, G., G. Murphy, and A. Ager. 1996. *J. Biol. Chem.* 271:11634.
 11. Ito, A., A. Mukaiyama, Y. Itoh, H. Magase, I.B. Thogersen, J.J. Enghild, Y. Sasaguri, and Y. Mori. 1996. *J. Biol. Chem.* 271:14657.
 12. Fowlkes, J.L., J.J. Enghild, K. Suzuki, and H. Nagase. 1994. *J. Biol. Chem.* 269:25742.
 13. Chandler, S., R. Coates, A. Gearing, J. Lury, G. Wells, and E. Bone. 1995. *Neurosci. Lett.* 201:223.
 14. Thrailkill, K.M., L.D. Quarles, H. Nagase, K. Suzuki, D.M. Serra, and J.L. Fowlkes. 1995. *Endocrinology* 136:3527.
 15. Crabbe, T., J.P. O'Connell, B.J. Smith, and A.J. Docherty. 1994. *Biochemistry* 33:11419.