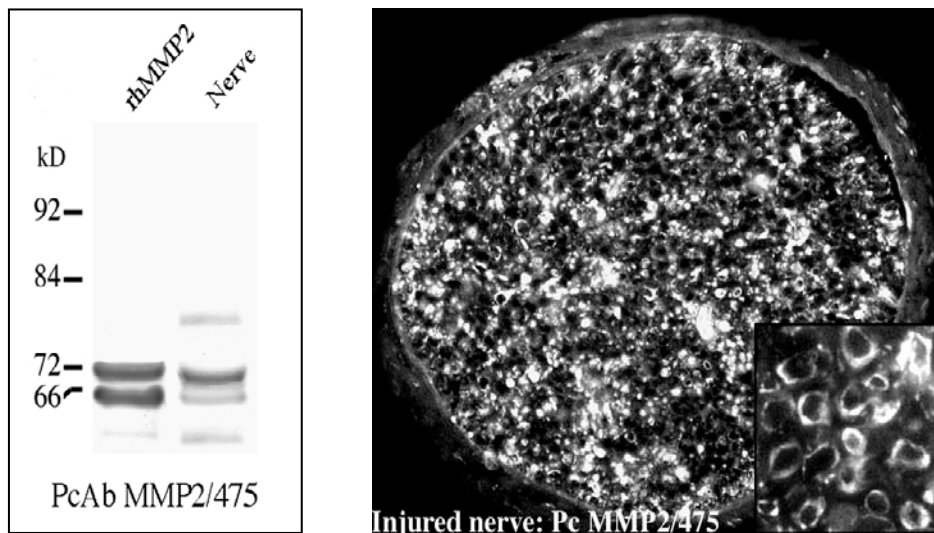


**Catalogue RPCA-MMP2: Polyclonal Antibody to activated Metalloproteinase-2 (MMP2)**

**The Immunogen:** Matrix metalloproteinase-2 (MMP2) (gelatinase A, 72 kDa gelatinase, 72 kDa type IV collagenase), a member of the [matrix metalloproteinase](#) (MMP) enzyme family, is involved in the breakdown of [extracellular matrix](#) in normal physiological processes, such as [embryonic development](#), [reproduction](#), and tissue remodeling, as well as in disease processes, such as [arthritis](#) and [metastasis](#). MMP2 degrades type IV [collagen](#), the major structural component of [basement membranes](#). The enzyme plays a role in endometrial menstrual breakdown, regulation of vascularization and the inflammatory response. Mutations in this gene have been associated with [Winchester syndrome](#), [Torg syndrome](#) and [nodulosis-arthropathy-osteolysis syndrome](#). MMP2 is secreted as an inactive proenzyme/zymogen which is activated when cleaved by extracellular [proteinases](#). The proform has a molecular weight of 72 kDa and the active form 66 kDa. A C-terminus peptide (aa. 475-490) was selected which is highly conserved and unique to MMP2, and is present in both pro- and active forms. The peptide was conjugated to KLH and used to immunize rabbits. The hyperimmune serum was affinity purified on a peptide-coupled Sepharose column. The purified immunoglobulin recognizes 72 kDa and 66 kDa bands corresponding to MMP2 on Western immunoblots. Some tissue extracts also show MMP2 complexes and degradation products. Polyclonal MMP2/475 antibody immunostains MMP2 specifically in various tissue preparations including paraffin sections. This antibody has been marketed for many years by other companies and is now produced by EnCor Biotechnology Inc. The [HGNC](#) name for this protein is [MMP2](#).



**Left:** Blots of recombinant human MMP2 both pro and active forms (left lane) and crude homogenate from injured rat peripheral nerve (right lane) immunolabeled with RPCA-MMP2 antibody. **Right:** Cross-section of injured rat nerve showing MMP2 expression by Schwann cells and other reactive cells.

**Antibody Characteristics:** The antibody was raised against a peptide corresponding to the C terminus of MMP2, specifically MGPLLVA<sup>T</sup>FWPELPEK, which was coupled to keyhole limpet hemocyanin with glutaraldehyde as described in reference 1. The antibody is provided as an aliquot of 1mg/mL affinity purified preparation. Store at 4°C or -20°C. Avoid repeat freezing and thawing.

**Suggestions for use:** The antibody can be diluted to 1:500-1,000 for immunofluorescence staining and 1:10,000 for western blotting. On western blots look for a major band at 66 and 72 kDa, corresponding to the proenzyme (72 kDa) and the activated form (66 kDa).

**Omim link:** <http://omim.org/entry/120360>

**References:**

1. Collier, I. E., Wilhelm, S. M., Eisen, A. Z., Marmor, B. L., Grant, G. A., Seltzer, J. L., Kronberger, A., He, C. S., Bauer, E. A., and Goldberg, G. I. H-ras oncogene-transformed human bronchial epithelial cells (TBE-1) secrete a single metalloprotease capable of degrading basement membrane collagen. *J. Biol. Chem.* 263:6579-6587 (1988).
2. C. Krekoski, D. Neubauer, J.B. Graham D. Muir. Metalloproteinase-dependent predegeneration in vitro enhances axonal regeneration within a cellular peripheral nerve grafts. *J. Neuroscience* 22:10408-10415 (2002).
3. D. Muir. Differences in proliferation and invasion by normal, transformed and NF1 Schwann cell cultures are influenced by matrix metalloproteinase expression. *Clinical and Experimental Metastasis* 13:303-314 (1995).

**Limitations:** This product is for research use only and is not approved for use in humans or in clinical diagnosis.

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