



Product Information Sheet

Product Name:	Human MMP-9, Recombinant
Catalog Number:	72009
Amount:	10 µg/ml, 100µl
Activity (Unit/µg):	>1,300 Unit/µg.
Unit definition:	One unit of protease hydrolyzes 1 picomole of Mca-Pro-Leu-Gly-Leu-Dap(Dnp)-Ala-Arg-NH ₂ (AnaSpec Cat#27076) per minute at pH 7.5 at 25° C.
Storage:	Store at -80°C. Avoid multiple thaw-freeze cycles.

Instruction:

Matrix metalloproteinases (MMPs) belong to a family of secreted or membrane-associated zinc endopeptidases capable of digesting extracellular matrix components^{1,2}. MMP-9^{3,4} (92-kDa gelatinase, collagenase-IV) is involved in a number of diseases such as cancer, angiogenesis, alopecia, and metastasis. MMP-9 is secreted as zymogen with prodomain, gelatin-binding domain consisting of three contiguous fibronectin type II units, catalytic domain, proline-rich linker region, and C-terminal hemopexin-like domain. It can degrade a variety of substrates, including gelatin, collagens type IV, V, XIV, a2-macroglobulin, elastin, vitronectin, and proteoglycans

The recombinant human MMP-9 was expressed as a full length pro-enzyme from its DNA sequence⁵ transfected into CHO cells. The apparent *Mr* on SDS-PAGE is 93-kDa. The pro-MMP-9 can be activated by incubating with 1 mM APMA at 37°C for 2 hr to generate a 68-kDa active form⁶. Its activity can be measured by FRET peptides (AnaSpec Cat#71134, Cat#71155). 10-20 ng of enzyme is sufficient for FRET-based assay.

The MMP-9 is stored in 50 mM Tris-HCl, pH 7.5, 150 mM NaCl, 10 mM CaCl₂, 1 mg/mL BSA. The purity of enzyme is >90% as estimated by SDS-PAGE.

References

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2. J. F. Woessner, Jr., *FASEB J.* 5, 2145-2154 (1991).
3. S. M. Wilhelm et al., *J.Biol.Chem.* 264, 17213-17221 (1989).
4. A. J. Fosang et al., *Biochem.J.* 295 (Pt 1), 273-276 (1993).
5. S. Chandler et al., *Neurosci.Lett.* 201, 223-226 (1995).
6. C. H. Bu and T. Pourmotabbed, *J.Biol.Chem* 270, 18563-18569 (1995).