

Pro-Matrix Metalloproteinase-2 (Pro-MMP-2)

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| CATALOG #: | 7780-5 |
| AMOUNT: | 5 µg |
| SOURCE: | Mouse fibroblasts |
| PURIFIED PROTEIN: | Matrix Metalloproteinase 2 (MMP-2), Gelatinase A, 72 kDa Type IV Collagenase, EC 3.4.24.24) |
| PURITY: | >90% by SDS-PAGE AND Western blot analyses |
| FORM: | Liquid, in 50 mM Tris-HCl, pH 7; 200 mM NaCl; 5 mM CaCl ₂ ; 1 µM ZnCl ₂ ; 0.05% Brij 35; 0,05% NaN ₃ |
| MOLECULAR WEIGHT: | 42/40 kDa species |

STORAGE CONDITIONS:

MMP-2 is very stable if aliquoted and stored (prevents auto-activation) at -70°C. Repeated freezing and thawing should be avoided.

DESCRIPTION:

The progelatinase A, a member of the matrix metalloproteinase (MMP) family, has been isolated from macrophages and fibroblasts. Gelatinase A hydrolyses several components of the extracellular matrix, e.g. the collagen types IV, V and XI and gelatin. Progelatinase A complexed via their C-terminal domain with TIMP-2 was isolated from culture media of different cell types. This complex shows both properties of its constituents: Like TIMP-2 it inhibits active matrix metalloproteinases and like gelatinase it shows proteolytic activity after activation with APMA (4-aminophenylmercury acetate). However, its proteolytic activity is less than 10% of that of gelatinase A not complexed with TIMP-2. In contrast to the other MMPs the progelatinase A cannot be activated by the serine proteinase trypsin. Until quite recently a potential natural activator that can transform latent progelatinase A into the active form was unknown. It was shown that the catalytic domain of the membrane type 2-matrix metalloproteinase activates progelatinase A as well as the progelatinase A / TIMP-2 complex, by cleaving the 72 kDa progelatinase A to yield 67 kDa gelatinase A, which is then

form towards the Dnp-peptide (Masui et al.). No significant difference in activity was found between free and complexed gelatinase A forms.

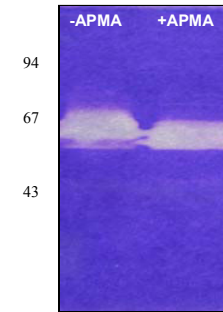
ACTIVATION:

Precursor enzyme needs activation using 2 mM (final concentration) aminophenylmercuric acetate (APMA) or 1 mM mersalylic acid for **60 -120 min. at 37°C. Do not use trypsin for activation! Do not dilute the enzyme for activation!**

INHIBITORS:

The activated enzyme is inhibited by tissue inhibitors of matrix metalloproteinase-2 (TIMP-2) and by chelators of divalent cations like EDTA or o-phenanthroline.

IMAGE:



RELATED PRODUCTS:

- MMP-2 Antibody: (Cat#5562-100)
- MMP-2, human recombinant: (Cat#7782-10)
- MMP-2, human recombinant: (Cat#7782-50)
- MMP-2, human recombinant: (Cat# 7782-1000)
- MMP-24 Antibody: (Cat# 3534-100)

FOR RESEARCH USE ONLY! Not to be used on humans.