

## 32-2546: MMP 2 HEK Recombinant Protein

**Alternative Name :** 72 kDa type IV collagenase, 72 kDa gelatinase, Gelatinase A, Matrix metalloproteinase-2, MMP-2, TBE-1, MMP2, CLG4A, CLG4, MONA, MMP-II.

### Description

Source : HEK293 cells. MMP-2 Human Recombinant produced in HEK293 cells is a proform of the Human MMP-2 (Ala30-Cys660) and fused with a polyhistidine tag at the C-terminus, having an Mw of 71kDa. MMP-2 is purified by proprietary chromatographic techniques. Matrix metalloproteinase-2 (MMP-2) is a type IV collagenase, which is involved in endometrial menstrual breakdown, regulation of vascularization and the inflammatory response. MMP-2 contains a number of distinct domains: a prodomain that is cleaved upon activation; a catalytic domain containing the zinc binding site; a fibronectin like domain believed to have a role in substrate targeting; and a carboxyl terminal (hemopexin like) domain containing 2 N-linked glycosylation. The MMP-2 can degrade an extensive array of substrates including type IV, V, VII and X collagens as well as gelatin type I. In addition, MMP-2 interacts with THBS2, TIMP2, Thrombospondin 1, CCL7 and TIMP4. MMP-2 autocatalytic cleavage in the C-terminal generates the anti-angiogenic peptide, PEX. This process seems to be made possible by binding integrin $\alpha$ 5 $\beta$ 3. Defects in the MMP-2 are the cause of Torg-Winchester syndrome (TWS), aka multicentric osteolysis nodulosis and arthropathy (MONA).

### Product Info

**Amount :** 10  $\mu$ g  
**Purification :** Greater than 95% as determined by SDS-PAGE.  
**Content :** The MMP-2 is supplied as a 0.2 $\mu$ m filtered solution in 20mM Tris-HCl, 150mM NaCl and 0.05% Brij 35, pH 7.4.  
**Storage condition :** Store MMP-2 at 4°C if entire vial will be used within 2-4 weeks. Store frozen at -20°C for longer periods of time. Avoid multiple freeze-thaw cycles.

### Application Note

The activity was measured by its ability to cleave fluorogenic peptide substrate, Mca-PLGL-Dpa-AR-NH<sub>2</sub>. The specific activity is > 1,000 pmoles/min/ $\mu$ g. Recombinant Human MMP-2 protein pro form needs to be activated with p-aminophenylmercuric acetate (APMA). Activation Protocol: 1. Dilute MMP2 to 100 $\mu$ g/ml in the Assay Buffer: 50mM Tris, 10mM CaCl<sub>2</sub>, 150mM NaCl, 0.05% (w/v) and Brij 35, pH 7.5. 2. Activate MMP2 by adding APMA to a final concentration of 1mM. and 100mM stock in DMSO. 3. Incubate at 37°C for 1 hour.

