# MMP-2 proenzyme (human fibroblasts)

Citations: 3

Ordering Information

ALX-200-419-C005

Suppose Suppose

## **Handling & Storage**

**Use/Stability** As indicated on product label or CoA when stored as recommended.

**Handling** Avoid freeze/thaw cycles.

Long Term Storage -80°C

Shipping Dry Ice

# Regulatory Status RUO - Research Use Only

### **Product Details**

Alternative Name Matrix metalloproteinase 2, Gelatinase A, 72 kDa Type IV

collagenase

**Application Notes** Immunogen for antibody generation, control in

immunoassays and for characterizing interactions with

MMP inhibitors.

**Formulation** Liquid. In 50mM TRIS-HCl, pH 7.0, containing 200mM

NaCl, 5mM CaCl  $_2$  , 1 $\mu$ M ZnCl  $_2$  , 0.05% BRIJ 35 and 0.05%

sodium azide.

MW ~72kDa

Purity ≥90% (SDS-PAGE, Western blot)

Purity Detail No other MMP contaminants are detectable.

Source Isolated from human rheumatoid synovial fibroblasts.

Requires activation.

Specific Activity ≥850mU/mg protein (Y. Masui, et al.; Biochem. Med. 17,

215 (1977)). One unit is defined as the amount of enzyme that hydrolyzes 1µmol Dnp-Pro-Gln-Gly-Ile-Ala-Gly-Gln-D-

Arg-OH per min. at 37°C, pH 7.0.

#### **Technical Info / Product Notes**

Activity: Specific activity can be assayed with the synthetic substrate N-(2,4)-dinitrophenyl-Pro-Gln-Gly-lle-Ala-Gly-Gln-D-Arg (Dnp-peptide) (Masui et al.). Substrate concentration should be 0.5mg/ml in 50mM TRIS-HCl, pH 7.0, 200mM NaCl, 5mM CaCl<sub>2</sub>, 1µM ZnCl<sub>2</sub>, 0.05% sodium azide, 0.05% BRIJ35, containing 0.05mg/ml albumine. One unit MMP catalyzes the hydrolysis of 1µmol Dnppeptide/min. at 37°C and pH 7.0. Alternatively the fluorogenic substrate (7-Methoxycoumarin-4-yl) acetyl-Pro-Leu-Gly-Leu-N-β-Dnp-L-(α,β-diaminopropionyl)Ala-Arg-NH 2 (Knight et al. 1992) can be used. Hydrolysis of the Gly-Leu bond separates the highly fluorescent (7-Methoxycoumarin-4-yl)acetyl group from the 2,4dinitrophenyl resulting in an increase of fluorogenic intensity. The  $K_m$  value for the gelatinase A is  $7.0 \times 10^5 M^{-1}$ s<sup>-1</sup>. Substrate should be kept as a 9.15mM stock solution in DMSO (10mg/ml). In the assay the substrate concentration should be ~25µM. The assay can be performed in a 96-well microtiter plate (100/200µl per well) suitable for fluorogenic measurements (Ex 328 nm; Em 393 nm).

**Activation:** Requires activation by 2mM (final concentration) APMA or 1mM mersalyl acid for 60-120 min. at 37°C. We do not recommend to use trypsin for activation! Do not dilute enzyme for activation!

**Inhibitors:** Activated enzyme is inhibited by tissue inhibitors of matrix metalloproteinase-2 (TIMP-2) and by chelators of divalent cations like EDTA or ophenanthroline.

P08253

**UniProt ID** 

Last modified: May 29, 2024