

Product datasheet

Recombinant human MMP24 protein ab157081

Description

Product name	Recombinant human MMP24 protein
Biological activity	>120mU/mg protein. One unit is defined as the amount of enzyme that hydrolyzes 1µmol Mca-Pro-Leu-Gly-Leu-Dpa-Ala-Arg-NH ₂ per min. at 37°C, pH 7.5.
Purity	> 90 % SDS-PAGE.
Expression system	Escherichia coli
Accession	Q9Y5R2
Protein length	Protein fragment
Animal free	No
Nature	Recombinant
Species	Human
Predicted molecular weight	23 kDa including tags
Tags	His tag C-Terminus

Specifications

Our [Abpromise guarantee](#) covers the use of **ab157081** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	Functional Studies SDS-PAGE
Form	Liquid
Additional notes	<p>Measurement of catalytic activity</p> <p>Preparation and stability of solutions: Peptide hydrolysis buffer: 50mM TRIS-HCl, pH 7.5, 150mM NaCl, 5mM CaCl₂, 0.025% Brij 35. Solution is stable for several weeks at 4°C. Stock solution of peptide substrate: 100µM solution of Mca-Pro-Leu-Gly-Leu-Dpa-Ala-Arg in 20% DMSO. Store at -20°C.: Stock solution of unquenched peptide: 10µM solution of (7-methoxycoumarin-4-yl)acetyl-Pro-Leu-NH₂ (Mca-Pro-Leu) in 20% DMSO. Store at -20°C.:</p> <p>Assay protocol:</p> <p>The activity of MMP-24 is measured fluorimetrically with a synthetic internally quenched fluorescent substrate according to Knight et al. An excitation wavelength of 328nm and an</p>

emission wavelength of 393nm are set in an appropriate fluorimeter. The instrument is calibrated with the unquenched peptide Mca-Pro-Leu at a concentration corresponding to between 2 and 10% hydrolysis of the protease substrate. Kinetic reactions are conveniently carried out in a constant volume of 2.5ml. The substrate Mca-Pro-Leu-Gly-Leu-Dpa-Ala-Arg is diluted in peptide hydrolysis buffer to a concentration of 0.8 μ M and equilibrated at a temperature of 37°C. Aliquots of 2 to 4 μ l of the activation mixture are then added and the increase in fluorescence is recorded over a time interval between 2 and 12 minutes. Activity units per ml enzyme solution are calculated according to the following equation: Activity (U/ml) = (CMca-Pro-Leu/FMca-Pro-Leu) x (dFMca-Pro-Leu-Gly-Leu-Dpa-Ala-Arg/Venzyme) x Vtotal
 CMca-Pro-Leu: Concentration of Mca-Pro-Leu used for calibration of the fluorimeter (μ moles/ml). FMca-Pro-Leu: Fluorescence of Mca-Pro-Leu at the concentration CMca-Pro-Leu used for fluorimeter calibration. dFMca-Pro-Leu-Gly-Leu-Dpa-Ala-Arg: Change in fluorescence during peptide hydrolysis per min. Vtotal: Volume of peptide hydrolysis reaction (2.5ml). Venzyme: Volume of added enzyme (0.002 to 0.004ml).

Inhibitors:

The catalytic domain of MMP-24 is inhibited by tissue inhibitors of MMP-2 (TIMP-2) and by chelators of divalent cations like EDTA or o-phenanthroline.

Preparation and Storage

Stability and Storage

Shipped on Dry Ice. Store at -80°C. Please see notes section.

pH: 7.50

Constituents: 0.06% Calcium chloride, 0.79% Tris HCl, 0.88% Sodium chloride

This product is an active protein and may elicit a biological response in vivo, handle with caution.

General Info

Function

Activates progelatinase A. May also be a proteoglycanase involved in degradation of proteoglycans, such as dermatan sulfate and chondroitin sulfate proteoglycans. Cleaves partially fibronectin, but not collagen type I, nor laminin.

Tissue specificity

Predominantly expressed in brain, kidney, pancreas and lung. Overexpressed in a series of brain tumors, including astrocytomas and glioblastomas.

Sequence similarities

Belongs to the peptidase M10A family.
 Contains 4 hemopexin-like domains.

Domain

The conserved cysteine present in the cysteine-switch motif binds the catalytic zinc ion, thus inhibiting the enzyme. The dissociation of the cysteine from the zinc ion upon the activation-peptide release activates the enzyme.

Post-translational modifications

The precursor is cleaved by a furin endopeptidase.

Cellular localization

Cell membrane and Secreted > extracellular space > extracellular matrix. Also shed from cell surface as soluble proteinase, by a proteolytic cleavage.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet

- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours

- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors