

Product datasheet

Recombinant human MMP1 protein ab124850

Overview

Product name	Recombinant human MMP1 protein
Protein length	Full length protein

Description

Nature	Recombinant
Source	HEK 293 cells

Amino Acid Sequence

Accession	P03956
Species	Human
Molecular weight	52 kDa including tags
Amino acids	1 to 469
Tags	His tag C-Terminus
Additional sequence information	MMP-1 Human Recombinant produced in HEK293 cells is a proform of the Human MMP1 (Met1-Asn469) and fused with a polyhistidine tag at the C-terminus.

Specifications

Our [Abpromise guarantee](#) covers the use of **ab124850** in the following tested applications.

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

Biological activity

The activity was measured by its ability to cleave a fluorogenic peptide substrate Mca-KPLGL-Dpa-AR-NH₂. The specific activity is > 400 pmoles/min/μg.

Recombinant Human MMP-1 protein pro form needs to be activated with p-aminophenylmercuric acetate (APMA).

Activation Protocol:

1. Dilute MMP1 to 50μg/ml in the Assay Buffer: 50mM Tris, 10mM CaCl₂, 150mM NaCl, 0.05% (w/v) and Brij 35, pH 7.5.
2. Activate MMP1 by adding APMA to a final concentration of 1mM.
3. Incubate at 37°C for 2 hours.

Applications

SDS-PAGE
Functional Studies

Purity

> 95 % SDS-PAGE.

ab124850 is purified by proprietary chromatographic techniques and 0.2µm sterile filtered.

Form Liquid

Preparation and Storage

Stability and Storage Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.

Constituents: 25% MES, 25% Brij, 25% Glycerol, 25% Sodium chloride

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

General Info

Function Cleaves collagens of types I, II, and III at one site in the helical domain. Also cleaves collagens of types VII and X. In case of HIV infection, interacts and cleaves the secreted viral Tat protein, leading to a decrease in neuronal Tat's mediated neurotoxicity.

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

Domain There are two distinct domains in this protein; the catalytic N-terminal, and the C-terminal which is involved in substrate specificity and in binding TIMP (tissue inhibitor of metalloproteinases). 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 Undergoes autolytic cleavage to two major forms (22 kDa and 27 kDa). A minor form (25 kDa) is the glycosylated form of the 22 kDa form. The 27 kDa form has no activity while the 22/25 kDa form can act as activator for collagenase.

Cellular localization Secreted > extracellular space > extracellular matrix.

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