

Product datasheet

Natural Human MMP1 protein ab39301

Overview

Product name	Natural Human MMP1 protein
Protein length	Full length protein

Description

Nature	Native
Source	Native

Amino Acid Sequence

Species	Human
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Specifications

Our [Abpromise guarantee](#) covers the use of **ab39301** in the following tested applications.

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

Biological activity	ab39301 is a true collagenase, and along with MMP8 and MMP13 can cleave all three strands of intact native collagen. Unlike MMP2 (Type IV Collagenase, Gelatinase A), MMP1 is not usually constitutively produced. When MMP1 production is stimulated, native MMP inhibitors (TIMPs) usually follow to quench them.
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Applications	Western blot SDS-PAGE
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Form	Liquid
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Additional notes	ab39301 is a true collagenase, and along with MMP8 and MMP13 can cleave all three strands of intact native collagen. Unlike MMP2 (Type IV Collagenase, Gelatinase A), MMP1 is not usually constitutively produced. When MMP1 production is stimulated, native MMP inhibitors (TIMPs) usually follow to quench them.
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Preparation and Storage

Stability and Storage	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles. Preservative: 0.01% Sodium Azide Constituents: 10 mM MES, 50% Glycerol, 0.025% Brij 35, 5mM Calcium chloride, 5mM EDTA, 175mM Sodium chloride, pH 5.5
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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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