Human MMP1 ELISA Kit ab100603

Overview

Product name: Human MMP1 ELISA Kit
Detection method: Colorimetric
Sample type: Cell culture supernatant, Serum, Plasma
Assay type: Sandwich (quantitative)
Sensitivity: < 8 pg/ml
Range: 24.69 pg/ml - 18000 pg/ml
Recovery: 98%

Sample specific recovery

<table>
<thead>
<tr>
<th>Sample type</th>
<th>Average %</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell culture supernatant</td>
<td>98.66</td>
<td>90% - 106%</td>
</tr>
<tr>
<td>Serum</td>
<td>97.78</td>
<td>88% - 106%</td>
</tr>
<tr>
<td>Plasma</td>
<td>99.59</td>
<td>90% - 107%</td>
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</tbody>
</table>

Assay duration: Multiple steps standard assay
Species reactivity: Reacts with: Human
Predicted to work with: Mouse, Rat

Product overview

Abcam’s MMP1 Human ELISA (Enzyme-Linked Immunosorbent Assay) kit is an in vitro enzyme-linked immunosorbent assay for the quantitative measurement of Human MMP1 pro and active forms in serum, plasma (using heparin as an anticoagulant, EDTA and Citrate are not recommended), and cell culture supernatants.

This assay employs an antibody specific for Human MMP1 coated on a 96-well plate. Standards and samples are pipetted into the wells and MMP1 present in a sample is bound to the wells by the immobilized antibody. The wells are washed and biotinylated anti-Human MMP1 antibody is added. After washing away unbound biotinylated antibody, HRP-conjugated streptavidin is pipetted to the wells. The wells are again washed, a TMB substrate solution is added to the wells and color develops in proportion to the amount of MMP1 bound. The Stop Solution changes the color from blue to yellow, and the intensity of the color is measured at 450 nm.

Notes

Optimisation may be required with urine samples
Tested applications

Suitable for: Sandwich ELISA
Platform
Microplate

Properties

Storage instructions
Store at -20°C. Please refer to protocols.

Components
<table>
<thead>
<tr>
<th>Component</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>20X Wash Buffer Concentrate</td>
<td>1 x 25ml</td>
</tr>
<tr>
<td>440X HRP-Streptavidin Concentrate</td>
<td>1 x 200μl</td>
</tr>
<tr>
<td>5X Assay Diluent</td>
<td>1 x 15ml</td>
</tr>
<tr>
<td>Biotinylated anti-Human MMP1</td>
<td>2 vials</td>
</tr>
<tr>
<td>MMP1 Microplate (12 x 8 wells)</td>
<td>1 unit</td>
</tr>
<tr>
<td>Recombinant Human MMP1 Standard (lyophilized)</td>
<td>2 vials</td>
</tr>
<tr>
<td>Stop Solution</td>
<td>1 x 8ml</td>
</tr>
<tr>
<td>TMB One-Step Substrate Reagent</td>
<td>1 x 12ml</td>
</tr>
</tbody>
</table>

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.

Applications

Our Abpromise guarantee covers the use of ab100603 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandwich ELISA</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
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</table>
Sandwich ELISA - MMP1 Human ELISA Kit (ab100603)

MMP1 measured in cell culture medium with background signal subtracted (duplicates +/- SD).

Sandwich ELISA - MMP1 Human ELISA Kit (ab100603)

MMP1 measured in biological fluids with background signal subtracted (duplicates +/- SD).

Representative Standard Curve using ab100603.

Typical Standard Curve

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