abcam

Product datasheet

Human MMP1 ELISA Kit ab215083

Recombinant SimpleStep ELISA

11 References 8 Images

Overview

Product name Human MMP1 ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Overall	8			4%

Inter-assay

Sample	n	Mean	SD	CV%
Overall	3			2.8%

Sample type Cell culture supernatant, Serum, Cell culture extracts, Hep Plasma, Cit plasma

Assay type Sandwich (quantitative)

Sensitivity 19.64 pg/ml

Range 93.75 pg/ml - 6000 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Cell culture supernatant	103	91% - 114%
Serum	106	98% - 117%
Cell culture extracts	104	96% - 111%
Hep Plasma	95	93% - 100%
Cit plasma	94	89% - 101%

Assay time 1h 30m

Assay duration One step assay

Species reactivity

Reacts with: Human
Does not react with: Cow

Product overview

Human MMP1 ELISA Kit (ab215083) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of MMP1 protein in cit plasma, hep plasma, serum, cell culture extracts, and cell culture supernatant. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human MMP1 with 19.64 pg/ml sensitivity.

SimpleStep ELISA® technology employs capture antibodies conjugated to an affinity tag that is recognized by the monoclonal antibody used to coat our SimpleStep ELISA® plates. This approach to sandwich ELISA allows the formation of the antibody-analyte sandwich complex in a single step, significantly reducing assay time. See the SimpleStep ELISA® protocol summary in the image section for further details. Our SimpleStep ELISA® technology provides several benefits:

- Single-wash protocol reduces assay time to 90 minutes or less
- High sensitivity, specificity and reproducibility from superior antibodies
- Fully validated in biological samples
- 96-wells plate breakable into 12 x 8 wells strips

A 384-well SimpleStep ELISA® microplate (**ab203359**) is available to use as an alternative to the 96-well microplate provided with SimpleStep ELISA® kits.

Notes

MMP1 is a member of the matrix metalloproteinase family of proteins. These proteins function in the breakdown of the extracellular matrix during a variety of normal and pathological cellular process. MMP1 is an interstitial and fibroblast collagenase.

Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances.
It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

Platform

Pre-coated microplate (12 x 8 well strips)

Properties

Storage instructions

Store at +4°C. Please refer to protocols.

Components	1 x 96 tests	1 x 96 tests
10X Human MMP1 Capture Antibody	1 x 600µl	1 x 600µl
10X Human MMP1 Detector Antibody	1 x 600µl	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml	1 x 20ml
50X Cell Extraction Enhancer Solution (ab193971)	1 x 1ml	1 x 1ml
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml	1 x 10ml
Antibody Diluent CPI2	1 x 6ml	1 x 6ml

Components	1 x 96 tests	1 x 96 tests
Human MMP1 Lyophilized Recombinant Protein	2 vials	2 vials
Plate Seals	1 unit	1 unit
Sample Diluent 50BS	1 x 20ml	1 x 20ml
Sample Diluent NS (ab193972)	1 x 50ml	1 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit	1 unit
Stop Solution	1 x 12ml	1 x 12ml
TMB Development Solution	1 x 12ml	1 x 12ml

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.

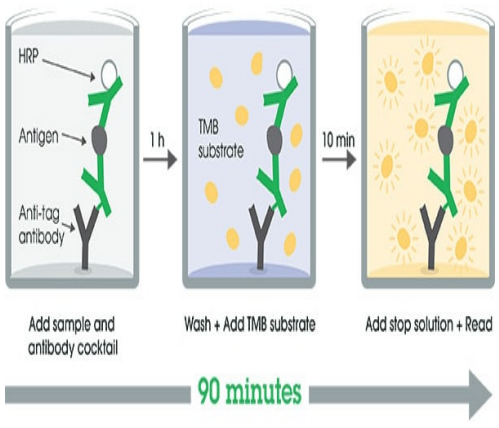
Sequence similarities
Belongs to the peptidase M10A family.
Contains 4 hemopexin-like domains.

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.

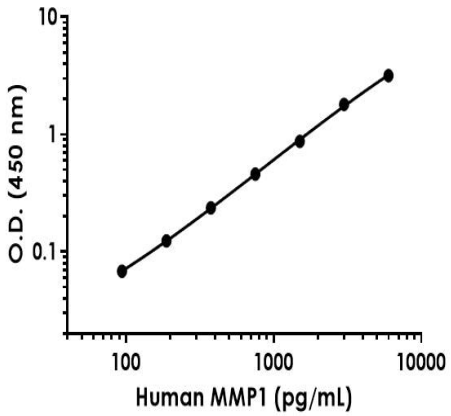
Cellular localization
Secreted > extracellular space > extracellular matrix.

Images



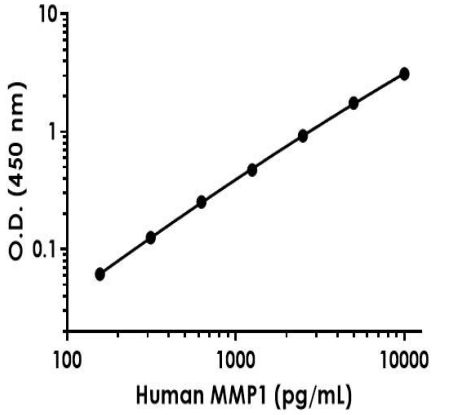
Other - Human MMP1 ELISA Kit (ab215083)

SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



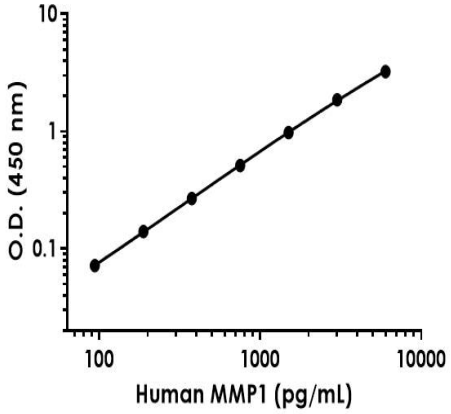
Example of human MMP1 standard curve in Sample Diluent NS.

Background-subtracted data values (mean +/- SD) are graphed.



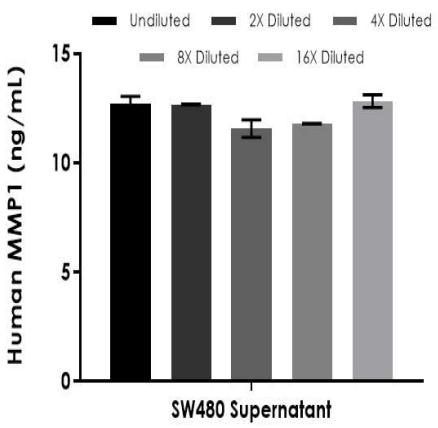
Example of human MMP1 standard curve in Sample Diluent 50BS.

Background-subtracted data values (mean +/- SD) are graphed.



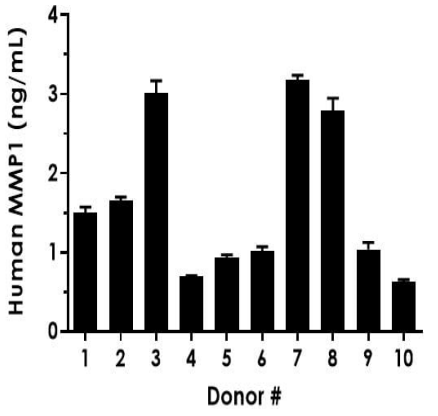
Example of human MMP1 standard curve in 1X Cell Extraction Buffer PTR.

Background-subtracted data values (mean +/- SD) are graphed.



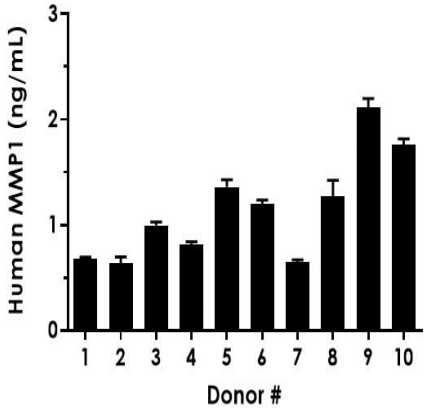
Interpolated concentrations of native MMP1 in SW480 cell culture supernatant samples.

The concentrations of MMP1 were measured in duplicates, interpolated from the MMP1 standard curves and corrected for sample dilution. Undiluted samples are as follows: SW480 supernatant 12.5%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean MMP1 concentration was determined to be 12.32 ng/mL in SW480 supernatant.



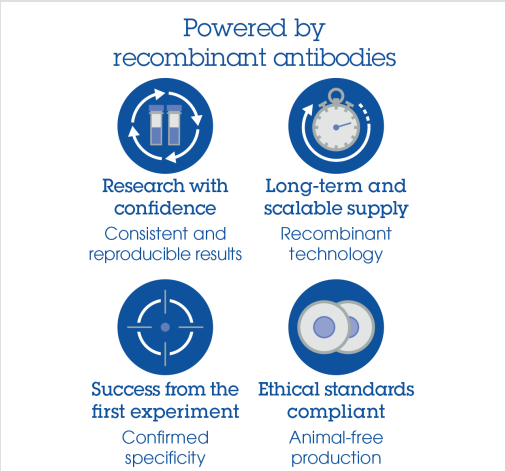
Serum from ten individual healthy human male donors was measured in duplicate.

Interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean MMP1 concentration was determined to be 1.65 ng/mL with a range of 0.612 – 3.22 ng/mL.



Serum from ten individual healthy human female donors was measured in duplicate.

Interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean MMP1 concentration was determined to be 1.15 ng/mL with a range of 0.589 – 2.17 ng/mL.



Sandwich ELISA - Human MMP1 ELISA Kit (ab215083)

To learn more about the advantages of recombinant antibodies see **here**.

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