

Human MMP3 ELISA Kit ab269371

Recombinant SimpleStep ELISA[®]

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Overview

Product name Human MMP3 ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Serum	8			2.8%

Inter-assay

Sample	n	Mean	SD	CV%
Serum	4			4.7%

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

Assay type Sandwich (quantitative)

Sensitivity 4.4 pg/ml

Range 25 pg/ml - 1600 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Cell culture supernatant	114	111% - 116%
Serum	110	107% - 115%
Hep Plasma	110	107% - 111%
EDTA Plasma	112	104% - 118%
Cit plasma	110	101% - 120%

Assay time 1h 30m

Assay duration One step assay

Species reactivity**Reacts with:** Human**Product overview**

Human MMP3 ELISA Kit (ab269371) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of MMP3 protein in cell culture supernatant, edta plasma, hep plasma, serum, and cit plasma. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human MMP3 with 4.4 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

Matrix metalloprotease-3 (MMP3), also known as Stromelysin-1, is a 54 kD secreted protease involved in the breakdown of extracellular matrix in normal physiological processes, such as embryonic development, reproduction, and tissue remodeling, as well as in disease processes, such as arthritis and metastasis. MMP3 functions by degrading fibronectin, laminin, gelatins of type I, III, IV, and V; collagens III, IV, X, and IX, and cartilage proteoglycans. This also activates pro-collagenase to further help in the remodeling of the extracellular matrix environment.

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
10X Human MMP3 Capture Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent 4BI	1 x 6ml
Human MMP3 Detector Antibody (Lyophilized)	1 vial
Human MMP3 Lyophilized Recombinant Protein	2 vials
Plate Seal	1 unit
Sample Diluent NS (ab193972)	1 x 12ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit

Components	1 x 96 tests
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

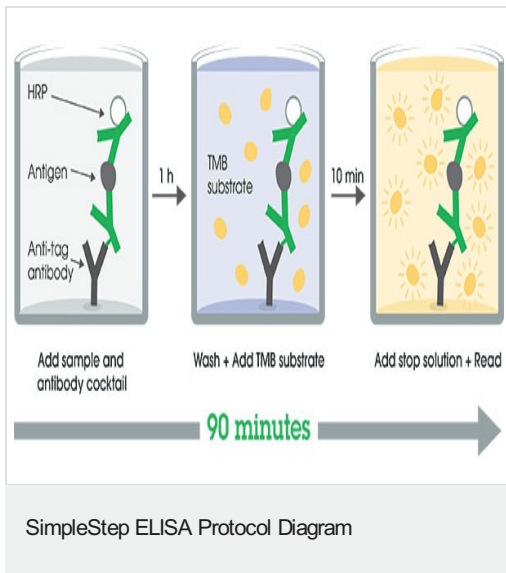
Function Can degrade fibronectin, laminin, gelatins of type I, III, IV, and V; collagens III, IV, X, and IX, and cartilage proteoglycans. Activates procollagenase.

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

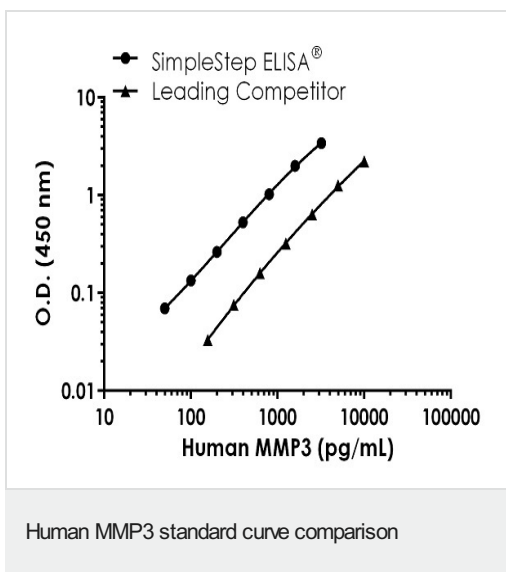
Domain The conserved cysteine present in the cysteine-switch motif binds the catalytic zinc ion, thus inhibiting the enzyme. The dissociation of the cysteine from the zinc ion upon the activation-peptide release activates the enzyme.

Cellular localization Secreted > extracellular space > extracellular matrix.

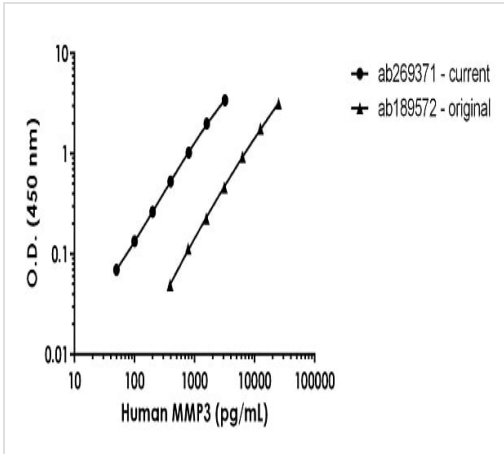
Images



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.

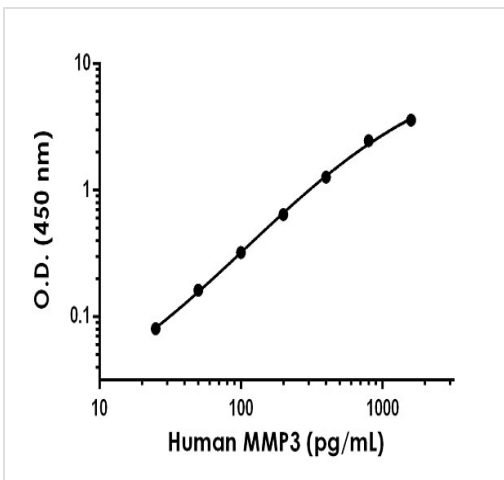


Standard Curve comparison between human MMP3 SimpleStep ELISA kit and traditional ELISA kit from leading competitor. SimpleStep ELISA kit shows increased sensitivity.



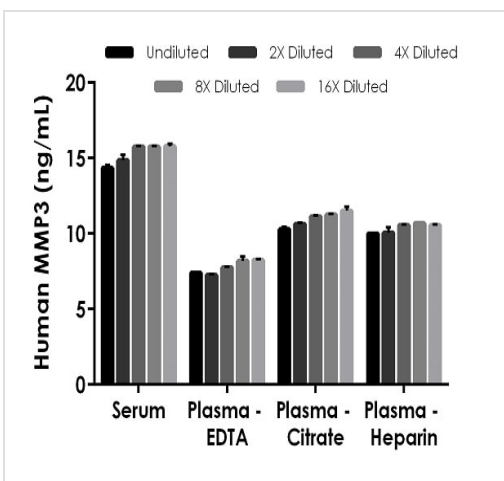
Human MMP3 standard curve comparison

Standard Curve comparison between the original human MMP3 SimpleStep ELISA kit ([ab189572](#)) and current human MMP3 SimpleStep ELISA kit ([ab269371](#)).



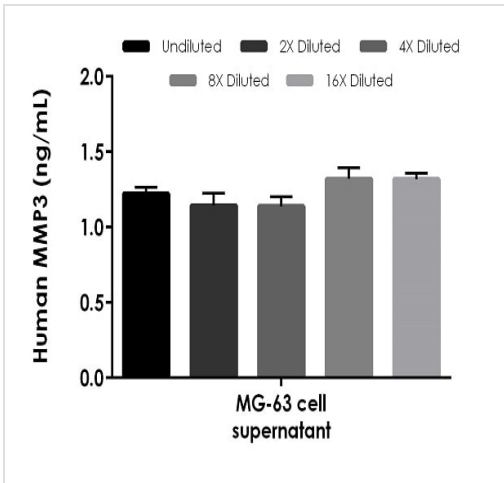
Example of human MMP3 standard curve in Sample Diluent NS.

The MMP3 standard curve was prepared as described in Section 10. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed.



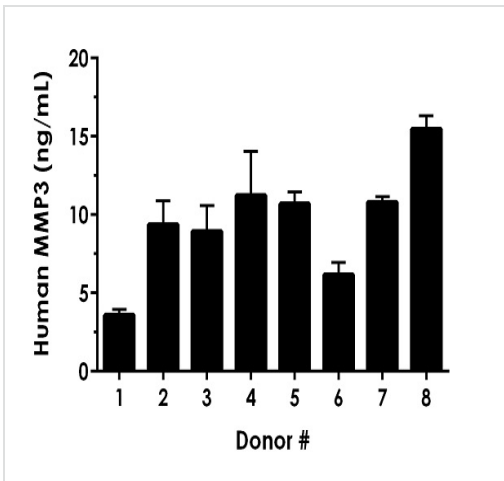
Interpolated concentrations of native MMP3 in human serum, plasma (EDTA), plasma (citrate), and plasma (heparin) samples.

The concentrations of MMP3 were measured in duplicates, interpolated from the MMP3 standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 6.25%, plasma (EDTA) 17.5%, plasma (citrate) 12.5%, and plasma (heparin) 12.5%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean MMP3 concentration was determined to be 15.3 ng/mL in serum, 7.8 ng/mL in plasma (EDTA), 11.0 ng/mL in plasma (citrate) and 10.4 ng/mL in plasma (heparin).



Interpolated concentrations of native MMP3 in human MG-63 cell supernatant samples.

The concentrations of MMP3 were measured in duplicates, interpolated from the MMP3 standard curves and corrected for sample dilution. Undiluted samples are as follows: MG-63 cell supernatant 100%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean MMP3 concentration was determined to be 1.2 ng/mL in MG-63 cell supernatant.



Serum from eight individual healthy MMP3 gender donors was measured in duplicate.

Interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean MMP3 concentration was determined to be 9.53 ng/mL with a range of 3.6 – 15.5 ng/mL.

Powered by recombinant antibodies

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Consistent and reproducible results

Long-term and scalable supply
Recombinant technology

Success from the first experiment
Confirmed specificity

Ethical standards compliant
Animal-free production

To learn more about the advantages of recombinant antibodies see [here](#).

Sandwich ELISA - Human MMP3 ELISA Kit (ab269371)

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