

## Product datasheet

# Human MMP14 ELISA Kit ab197747

SimpleStep ELISA

[1 References](#) [5 Images](#)

### Overview

**Product name** Human MMP14 ELISA Kit

**Detection method** Colorimetric

**Precision**

Intra-assay

Sample	n	Mean	SD	CV%
Overall	8			2.94%

Inter-assay

Sample	n	Mean	SD	CV%
Overall	3			2.52%

**Sample type**

Cell culture supernatant, Serum, Cell culture extracts, Tissue Extracts, Hep Plasma, EDTA Plasma, Cit plasma

**Assay type**

Sandwich (quantitative)

**Sensitivity**

0.137 ng/ml

**Range**

0.391 ng/ml - 25 ng/ml

**Recovery**

Sample specific recovery

Sample type	Average %	Range
Serum	95	93% - 98%
Cell culture media	83	79% - 88%
Hep Plasma	90	88% - 92%
EDTA Plasma	91	90% - 92%
Cit plasma	94	91% - 100%

<b>Assay time</b>	1h 30m
<b>Assay duration</b>	One step assay
<b>Species reactivity</b>	<b>Reacts with:</b> Human
<b>Product overview</b>	<b>Abcam is committed to meeting high quality standards of ethical manufacturing and has decided to discontinue this product because it contains antibodies generated by the ascites method. We are sorry for the inconvenience this may cause. We are currently developing a replacement kit with recombinant monoclonal antibodies.</b>

Human MMP14 ELISA Kit (ab197747) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of MMP14 protein in cell culture extracts, cell culture supernatant, cit plasma, edta plasma, hep plasma, serum, and tissue extracts. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human MMP14 with 0.137 ng/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**

MMP14 is one of six membrane type matrix metalloproteinases, and was the first membrane type MMP discovered. Matrix metalloproteinases are zinc binding enzymes that degrade components of the extracellular matrix, and are involved in tissue remodeling, wound healing, angiogenesis, and tumor invasion. MMP14 may specifically activate progelatinase A and, through pro-gelatinase A activation, trigger tumor cell invasion on the tumor cell surface. MMP14 may also be involved in actin cytoskeleton reorganization by cleaving PTK7, as well as be a positive regulator of cell growth and migration through the activation of MMP15. In mice that were MMP14 gene deficient dysmorphism, arthritis, osteopenia, dwarfism, and fibrosis were observed, which are all conditions related to skeletal and soft tissue modeling.

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** Microplate (12 x 8 well strips)

**Properties**

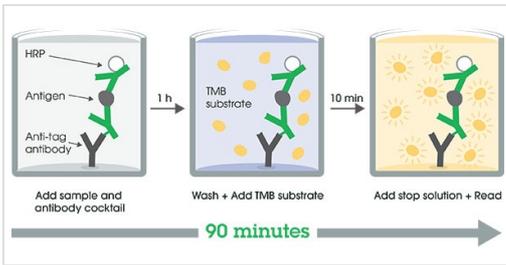
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**Storage instructions** Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X Human MMP14 Capture Antibody	1 x 600µl
10X Human MMP14 Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
50X Cell Extraction Enhancer Solution (ab193971)	1 x 1ml
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml
Antibody Diluent 4BI	1 x 6ml
Human MMP14 Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent NS (ab193972)	1 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

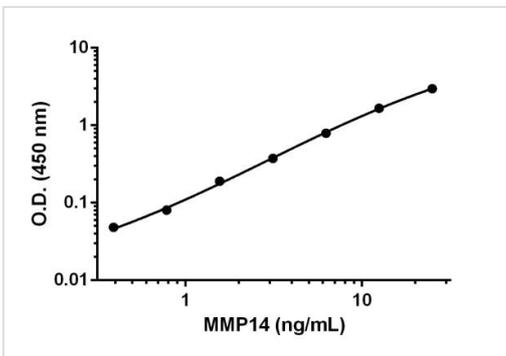
<b>Function</b>	Seems to specifically activate progelatinase A. May thus trigger invasion by tumor cells by activating progelatinase A on the tumor cell surface. May be involved in actin cytoskeleton reorganization by cleaving PTK7. Acts as a positive regulator of cell growth and migration via activation of MMP15.
<b>Tissue specificity</b>	Expressed in stromal cells of colon, breast, and head and neck. Expressed in lung tumors.
<b>Sequence similarities</b>	Belongs to the peptidase M10A family. Contains 4 hemopexin-like domains.
<b>Domain</b>	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.
<b>Post-translational modifications</b>	The precursor is cleaved by a furin endopeptidase.
<b>Cellular localization</b>	Membrane. Melanosome. Cytoplasm. Identified by mass spectrometry in melanosome fractions from stage I to stage IV. Forms a complex with BST2 and localizes to the cytoplasm.

## Images



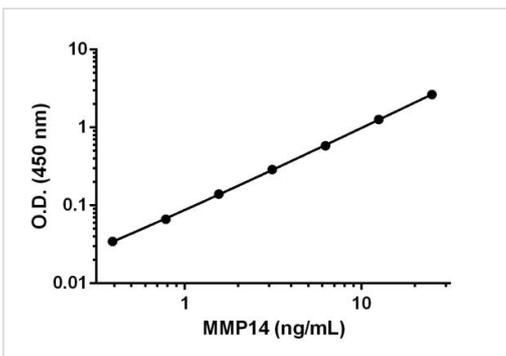
Other - Human MMP14 ELISA Kit (ab197747)

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.



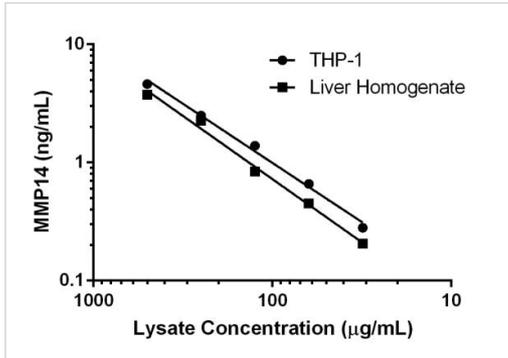
Example of MMP14 standard curve prepared in 1X Cell Extraction Buffer PTR.

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



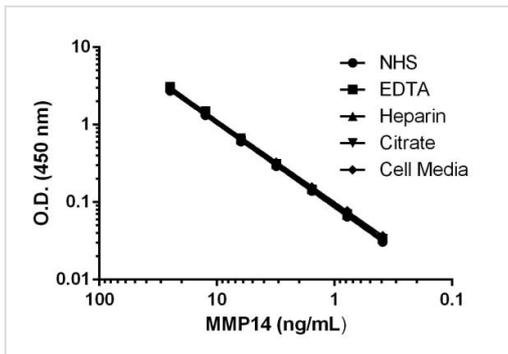
Example of MMP14 standard curve prepared in Sample Diluent NS.

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



The interpolated MMP14 concentration of each lysate dilution is shown.

Titration of Human THP-1 cell extract and Human liver homogenate tissue extract within the working range of the assay.



Background-subtracted data values are graphed.

Titration of Human serum, plasma, and cell media (+ 10% FBS) spiked with concentrations of recombinant MMP14 protein within the working range of the assay.

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