

Product datasheet

Monkey MMP2 ELISA Kit ab269561

Recombinant SimpleStep ELISA

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Overview

Product name Monkey MMP2 ELISA Kit

Detection method Colorimetric

Precision Intra-assay

Sample	n	Mean	SD	CV%
Serum	3			1.3%

Inter-assay

Sample	n	Mean	SD	CV%
Serum	8			7.8%

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

Assay type Sandwich (quantitative)

Sensitivity 17 pg/ml

Range 54.69 pg/ml - 3500 pg/ml

Recovery Sample specific recovery

Sample type	Average %	Range
Cell culture supernatant	91	87% - 93%
Serum	109	108% - 110%
Hep Plasma	98	87% - 104%
EDTA Plasma	110	106% - 117%
Cit plasma	97	92% - 105%

Assay time 1h 30m

Assay duration One step assay

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

Monkey MMP2 ELISA Kit (ab269561) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of MMP2 protein in cell culture supernatant, edta plasma, hep plasma, serum, and cit plasma. It uses our proprietary SimpleStep ELISA® technology. Quantitate Monkey MMP2 with 17 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

Monkey MMP2 (matrix metalloproteinase 2) is a 72 kD protein matrix metalloproteinases (MMPs) family member, consisting of 24 known human zinc proteases. MMPs essential role is breaking down components of the extracellular matrix. MMP substrates include cytokines, chemokines, growth factors and binding proteins, cell adhesion molecules, and other proteinases. Most MMPs share common structural motifs including a pro-peptide domain, a catalytic domain, a hinge region, and a hemopexin-like domain. MMPs are synthesized as pro-enzymes and secreted before conversion to their active form. MMP activity is regulated on several levels including transcription, pro-enzyme activation, or by their endogenous inhibitors, tissue inhibitors of metalloproteinases. Monkey MMP2 shares 99.7, 96.7, 96.4 and 96.2 percent sequence homology with human, mouse, rat and cow, respectively.

Platform

Pre-coated microplate (12 x 8 well strips)

Properties**Storage instructions**

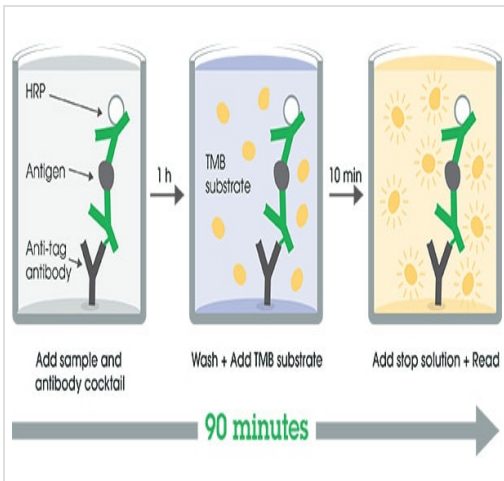
Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X Monkey MMP2 Capture Antibody	1 x 600µl
10X Monkey MMP2 Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent 5BR	1 x 6ml
Monkey MMP2 Lyophilized Recombinant Protein	2 vials

Components	1 x 96 tests
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

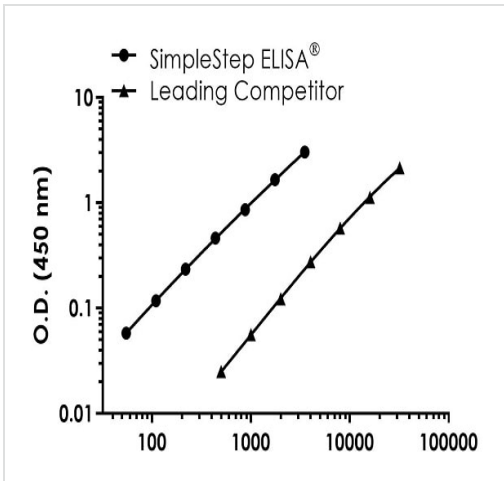
Function	<p>Ubiquitous metalloproteinase that is involved in diverse functions such as remodeling of the vasculature, angiogenesis, tissue repair, tumor invasion, inflammation, and atherosclerotic plaque rupture. As well as degrading extracellular matrix proteins, can also act on several nonmatrix proteins such as big endothelial 1 and beta-type CGRP promoting vasoconstriction. Also cleaves KISS at a Gly-Leu bond. Appears to have a role in myocardial cell death pathways. Contributes to myocardial oxidative stress by regulating the activity of GSK3beta. Cleaves GSK3beta in vitro.</p> <p>PEX, the C-terminal non-catalytic fragment of MMP2, possesses anti-angiogenic and anti-tumor properties and inhibits cell migration and cell adhesion to FGF2 and vitronectin. Ligand for integrin/beta3 on the surface of blood vessels.</p>
Tissue specificity	Produced by normal skin fibroblasts. PEX is expressed in a number of tumors including gliomas, breast and prostate.
Involvement in disease	Defects in MMP2 are the cause of Torg-Winchester syndrome (TWS) [MIM:259600]; also known as multicentric osteolysis nodulosis and arthropathy (MONA). TWS is an autosomal recessive osteolysis syndrome. It is severe with generalized osteolysis and osteopenia. Subcutaneous nodules are usually absent. Torg-Winchester syndrome has been associated with a number of additional features including coarse face, corneal opacities, patches of thickened, hyperpigmented skin, hypertrichosis and gum hypertrophy. However, these features are not always present and have occasionally been observed in other osteolysis syndromes.
Sequence similarities	<p>Belongs to the peptidase M10A family.</p> <p>Contains 3 fibronectin type-II domains.</p> <p>Contains 4 hemopexin-like domains.</p>
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.
Post-translational modifications	Phosphorylation on multiple sites modulates enzymatic activity. Phosphorylated by PKC in vitro. The propeptide is processed by MMP14 (MT-MMP1) and MMP16 (MT-MMP3). Autocatalytic cleavage in the C-terminal produces the anti-angiogenic peptide, PEX. This processing appears to be facilitated by binding integrin/beta3.
Cellular localization	Secreted > extracellular space > extracellular matrix. Membrane. Nucleus. Colocalizes with integrin alphaV/beta3 at the membrane surface in angiogenic blood vessels and melanomas. Found in mitochondria, along microfibrils, and in nuclei of cardiomyocytes.

Images



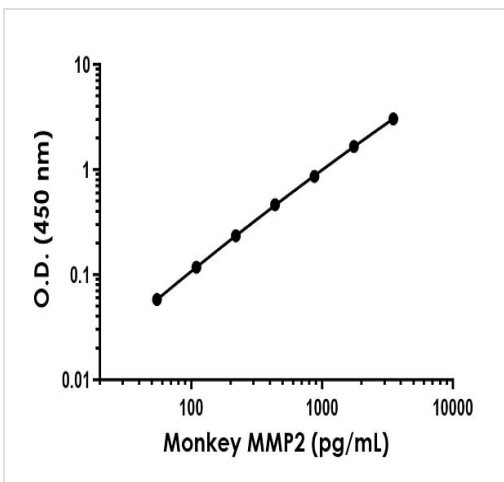
SimpleStep ELISA Protocol Diagram

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.



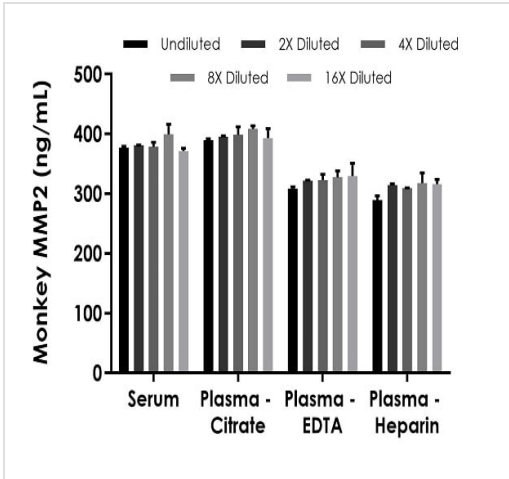
Monkey MMP3 standard curve comparison

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



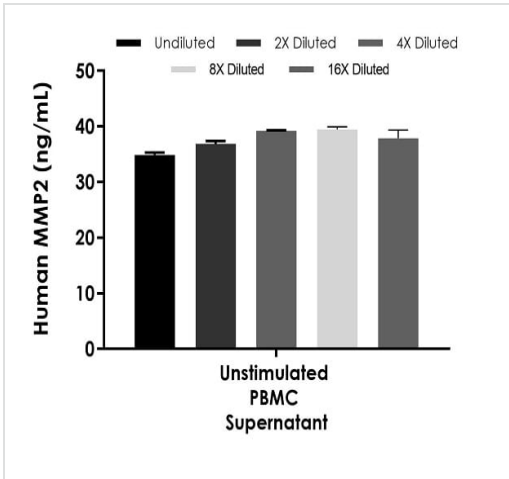
Example of monkey MMP2 standard curve in Sample Diluent NS.

The MMP2 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 MMP2 in monkey serum, and plasma samples.

The concentrations of MMP2 were measured in duplicates, interpolated from the MMP2 standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 1:200, plasma (citrate) 1:200, plasma (EDTA) 1:200, and plasma (heparin) 1:200. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean MMP2 concentration was determined to be 382 ng/mL in serum, 397 ng/mL in plasma (citrate), 322 ng/mL in plasma (EDTA), and 309 ng/mL in plasma (heparin).



Interpolated concentrations of native MMP2 in monkey unstimulated PBMC cell culture supernatant samples.

The concentrations of MMP2 were measured in duplicates, interpolated from the MMP2 standard curves and corrected for sample dilution. Undiluted samples are as follows: unstimulated PBMC cell culture supernatant 1:20. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean MMP2 concentration was determined to be 38 ng/mL in unstimulated PBMC cell culture supernatant.

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Sandwich ELISA - Monkey MMP2 ELISA Kit
(ab269561)

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

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