

## Product datasheet

# Mouse MMP2 ELISA Kit ab100730

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### Overview

<b>Product name</b>	Mouse MMP2 ELISA Kit
<b>Detection method</b>	Colorimetric
<b>Sample type</b>	Cell culture supernatant, Serum, Plasma
<b>Assay type</b>	Sandwich (quantitative)
<b>Sensitivity</b>	< 25 pg/ml
<b>Range</b>	27.43 pg/ml - 20000 pg/ml
<b>Recovery</b>	100 %

Sample specific recovery

Sample type	Average %	Range
Cell culture supernatant	94.21	86% - 104%
Serum	107.6	96% - 127%
Plasma	105.6	95% - 120%

**Assay duration** Multiple steps standard assay

**Species reactivity** **Reacts with:** Mouse

**Product overview** Abcam's MMP2 Mouse ELISA (Enzyme-Linked Immunosorbent Assay) kit is an *in vitro* enzyme-linked immunosorbent assay for the quantitative measurement of mouse MMP2 in serum, plasma and cell culture supernatants.

This assay employs an antibody specific for mouse MMP2 coated on a 96-well plate. Standards and samples are pipetted into the wells and MMP2 present in a sample is bound to the wells by the immobilized antibody. The wells are washed and biotinylated anti-mouse MMP2 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 MMP2 bound. The Stop Solution changes the color from blue to yellow, and the intensity of the color is measured at 450 nm.

**Platform** Microplate

### Properties

**Storage instructions**

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

Components	1 x 96 tests
20X Wash Buffer	1 x 25ml
400X HRP-Streptavidin Concentrate	1 x 200µl
5X Assay Diluent	1 x 15ml
Biotinylated anti-Mouse MMP2	2 vials
MMP2 Microplate (12 x 8 wells)	1 unit
Recombinant Mouse MMP2 Standard (lyophilized)	2 vials
Stop Solution	1 x 8ml
TMB One-Step Substrate Reagent	1 x 12ml

**Function**

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.

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 $\alpha$ /beta3 on the surface of blood vessels.

**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**

Belongs to the peptidase M10A family.

Contains 3 fibronectin type-II domains.

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.

**Post-translational modifications**

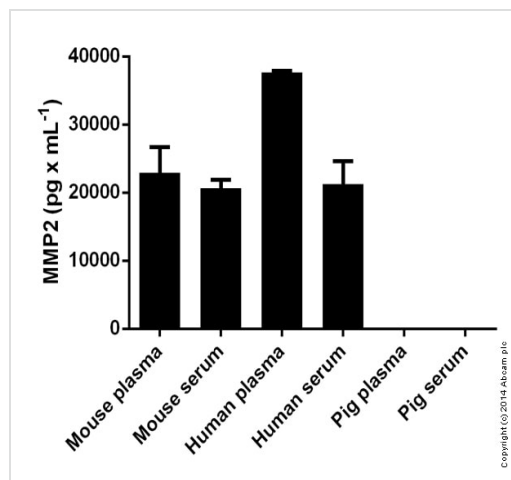
Phosphorylation on multiple sites modulates enzymatic activity. Phosphorylated by PKC in vitro.

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 $\alpha$ /beta3.

**Cellular localization**

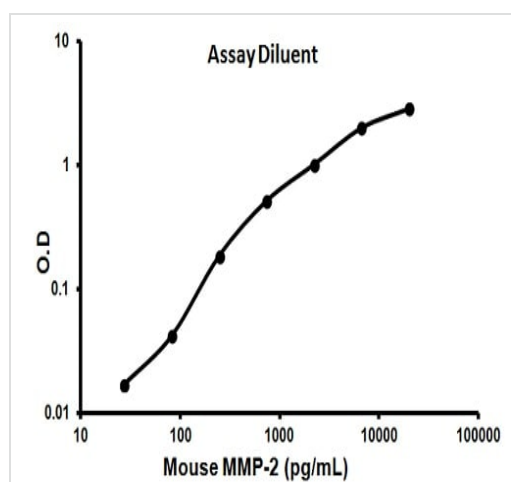
Secreted > extracellular space > extracellular matrix. Membrane. Nucleus. Colocalizes with integrin  $\alpha$ V/beta3 at the membrane surface in angiogenic blood vessels and melanomas.

## Images



MMP2 measured in biological fluids showing quantity (pg) per mL tested sample

Sandwich ELISA - MMP2 Mouse ELISA Kit  
(ab100730)



Representative standard curve using ab100730

Typical standard curve

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