

## ARG83828 Human MMP2 ELISA Kit

Package: 96 wells  
Store at: 4°C, -20°C

### Summary

Product Description	ARG83828 Human MMP2 ELISA Kit is an Enzyme Immunoassay kit for the quantification of Human MMP2 in serum and plasma, cell culture supernatants
Tested Reactivity	Hu
Tested Application	ELISA
Target Name	MMP2
Conjugation	HRP
Conjugation Note	Substrate: TMB and read at 450 nm.
Sensitivity	156.25 pg/mL
Sample Type	serum and plasma, cell culture supernatants
Standard Range	312.5 - 20000 pg/mL
Sample Volume	50 µl
Alternate Names	CLG4A; MMP-2; TBE-1; MONA; CLG4; EC 3.4.24.24; Gelatinase A; Matrix metalloproteinase-2; MMP-II; 72 kDa gelatinase; 72 kDa type IV collagenase

### Application Instructions

Assay Time 4 hours

### Properties

Form	96 well
Storage instruction	Store the kit at 4°C, -20°C. Keep microplate wells sealed in a dry bag with desiccants. Do not expose test reagents to heat, sun or strong light during storage and usage. Please refer to the product user manual for detail temperatures of the components.
Note	For laboratory research only, not for drug, diagnostic or other use.

### Bioinformation

Gene Symbol	MMP2
Gene Full Name	matrix metalloproteinase 2
Background	This gene is a member of the matrix metalloproteinase (MMP) gene family, that are zinc-dependent enzymes capable of cleaving components of the extracellular matrix and molecules involved in signal transduction. The protein encoded by this gene is a gelatinase A, type IV collagenase, that contains three fibronectin type II repeats in its catalytic site that allow binding of denatured type IV and V collagen and elastin. Unlike most MMP family members, activation of this protein can occur on the cell membrane. This enzyme can be activated extracellularly by proteases, or, intracellularly by its S-glutathiolation with no requirement for proteolytical removal of the pro-domain. This protein is thought to be involved in multiple pathways including roles in the nervous system, endometrial menstrual breakdown, regulation of vascularization, and metastasis. Mutations in this gene have been

associated with Winchester syndrome and Nodulosis-Arthropathy-Osteolysis (NAO) syndrome. Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Oct 2014]

#### 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. Involved in the formation of the fibrovascular tissues in association with MMP14.

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.

Isoform 2: Mediates the proteolysis of CHUK/IKKA and initiates a primary innate immune response by inducing mitochondrial-nuclear stress signaling with activation of the pro-inflammatory NF-kappaB, NFAT and IRF transcriptional pathways. [UniProt]

#### PTM

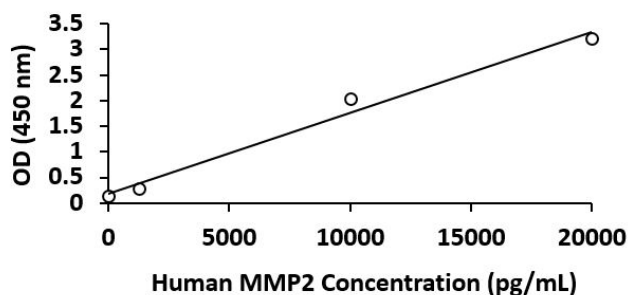
Phosphorylation on multiple sites modulates enzymatic activity. Phosphorylated by PKC in vitro.

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. [UniProt]

#### Cellular Localization

Isoform 1: Secreted, extracellular space, extracellular matrix. Membrane. Nucleus. Note=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. Isoform 2: Cytoplasm. Mitochondrion. [UniProt]

## Images



ARG83828 Human MMP2 ELISA Kit standard curve image

ARG83828 Human MMP2 ELISA Kit results of a typical standard run with optical density reading at 450 nm.