

## Product datasheet

# Recombinant Human MMP2 protein ab151866

### Overview

<b>Product name</b>	Recombinant Human MMP2 protein
<b>Protein length</b>	Full length protein

### Description

<b>Nature</b>	Recombinant
<b>Source</b>	HEK 293 cells
<b>Amino Acid Sequence</b>	
<b>Accession</b>	<a href="#">P08253</a>
<b>Species</b>	Human
<b>Sequence</b>	<p>           APSPIIKFPGDVAPKTDKELAVQYLNTFYGCPKESCNL            FVLKDTLKKMQK            FFGLPQTGDLQNTIETMRKPRCGNPDVANYNFFPRK            PKWDKNQITYRII            GYTPDLDPETVDDAFARAFQVWSDVTPLRFSRIHDGE            ADIMINFGRWEHG            DGYPFDGKDGLLAHAFAPGTGVGGDSHFDDDELWTL            GEGQVVRVKYGNAD            GEYCKFPFLFNGKEYNSCTDTGRSDGFLWCSTTYNFE            KDGYGFCPHEAL            FTMGGNAEGQPCKFPFRFQGTSYDSCTEGRTDGYR            WCGTTEDYDRDKKY            GFCPETAMSTVGGNSEGAPCVFPFTFLGNKYESCTS            AGRSDGKMWCATTA            NYDDDRKWGFCPDQGYSFLVAAHEFGHAMGLEHSQ            DPGALMAPIITYTK            NFRLSQDDIKGIQELYGASPDIDLGTGPTPTLGPVTPEI            CKQDMVFDGIA            QIRGEIFFFKDRFIWRTVTPRDKPMGPLLVAATFWPELP            EKIDAVYEAPQE            EKAVFFAGNEYWIYASTLERGYPKPLTSLGLPPDVQR            VDAAFNWSKNKK            TYFAGDKFWRYNEVKKKMDPGFPKLIADAWNAIPDNL            DAVVDLQGGGHS            YFFKGAYLKLENQSLKSVKFGSIKSDWLGCVDHHHH            HH         </p>

<b>Molecular weight</b>	72 kDa including tags
<b>Amino acids</b>	30 to 660
<b>Tags</b>	His tag C-Terminus

## Specifications

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Our [Abpromise guarantee](#) covers the use of **ab151866** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<b>Applications</b>	SDS-PAGE HPLC
<b>Endotoxin level</b>	< 1.000 Eu/μg
<b>Purity</b>	>95% by SDS-PAGE . Purity is greater than 95% as determined by SEC-HPLC and reducing SDS-PAGE.
<b>Form</b>	Lyophilised

## Preparation and Storage

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<b>Stability and Storage</b>	Shipped at 4°C. The lyophilized protein is stable for a few weeks at room temperature. Store at -20°C long term. pH: 7.50 Constituents: 0.32% Tris HCl, 0.88% Sodium chloride
<b>Reconstitution</b>	Dissolve the lyophilized protein in 1X PBS. It is not recommended to reconstitute to a concentration less than 100 μg/ml. Reconstituted protein solution can be stored at 4-7°C for 2-7 days. For long term storage aliquot and store at < -20°C.

## General Info

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<b>Function</b>	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/beta3 on the surface of blood vessels.
<b>Tissue specificity</b>	Produced by normal skin fibroblasts. PEX is expressed in a number of tumors including gliomas, breast and prostate.
<b>Involvement in disease</b>	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 $\alpha$ v/ $\beta$ 3.

#### **Cellular localization**

Secreted > extracellular space > extracellular matrix. Membrane. Nucleus. Colocalizes with integrin  $\alpha$ v/ $\beta$ 3 at the membrane surface in angiogenic blood vessels and melanomas. Found in mitochondria, along microfibrils, and in nuclei of cardiomyocytes.

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