

Product datasheet

Anti-MMP2 antibody ab110186

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Overview

Product name	Anti-MMP2 antibody
Description	Rabbit polyclonal to MMP2
Host species	Rabbit
Specificity	No cross reactivity with other proteins.
Tested applications	Suitable for: WB, IHC-P, IHC-Fr
Species reactivity	Reacts with: Mouse, Rat, Human, Pig Predicted to work with: Sheep, Horse, Cow, Dog
Immunogen	Synthetic peptide corresponding to Human MMP2 aa 138-153 (N terminal). Sequence: ETVDDAFARAFQVWSD Database link: P08253
	Run BLAST with Run BLAST with

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	Preservatives: 0.025% Thimerosal (merthiolate), 0.025% Sodium azide Constituents: 2.5% BSA, 0.45% Sodium chloride, 0.1% Dibasic monohydrogen sodium phosphate
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab110186** in the following tested applications.

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

Application	Abreviews	Notes
WB		Use a concentration of 0.1 - 0.5 µg/ml. Predicted molecular weight: 74 kDa. The detection limit for MMP2 is approximately 2.5ng/lane under non-reducing and reducing conditions.
IHC-P		Use a concentration of 0.5 - 1 µg/ml. Antigen retrieval by heat
IHC-Fr		Use a concentration of 0.5 - 1 µg/ml.

Target

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/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.

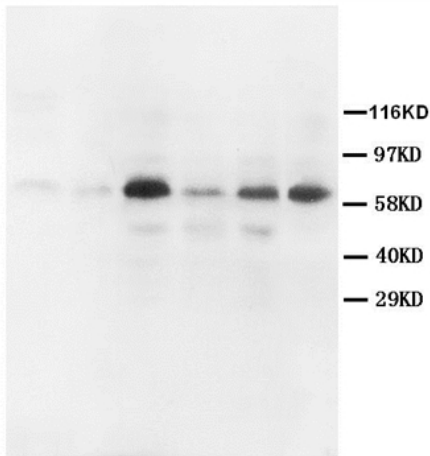
Post-translational modifications

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/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

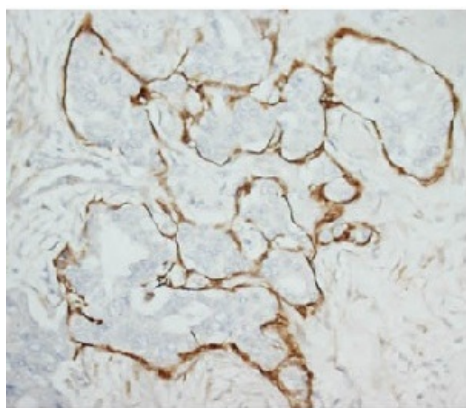


Western blot - Anti-MMP2 antibody (ab110186)

All lanes : Anti-MMP2 antibody (ab110186)

- Lane 1 :** Rat Liver Tissue Lysate
- Lane 2 :** Rat Spleen Tissue Lysate
- Lane 3 :** MCF-7 Cell Lysate
- Lane 4 :** MM453 Cell Lysate
- Lane 5 :** MM231 Cell Lysate
- Lane 6 :** SW620 Cell Lysate

Predicted band size: 74 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MMP2 antibody (ab110186)

Immunohistochemical analysis of paraffin embedded Human mammary cancer tissue labeling MMP2 with ab110186 at 1µg/ml. Antigen retrieval = heat.

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