


Anti-MMP2 antibody ab227755

[2 References](#) [1 Image](#)

Overview

Product name	Anti-MMP2 antibody
Description	Rabbit polyclonal to MMP2
Host species	Rabbit
Tested applications	Suitable for: IHC-P
Species reactivity	Reacts with: Human Predicted to work with: Mouse, Rat, Rabbit, Chicken, Cow, Dog, Pig 
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	IHC-P: Human placenta tissue.
General notes	This product is FOR RESEARCH USE ONLY. For commercial use, please contact partnerships@abcam.com. The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

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	pH: 7.60 Preservative: 0.1% Sodium azide Constituents: PBS, 1% BSA
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab227755 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
IHC-P		1/100. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. Primary antibody incubation for 30 minutes at room temperature.

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 α 5 β 3 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.

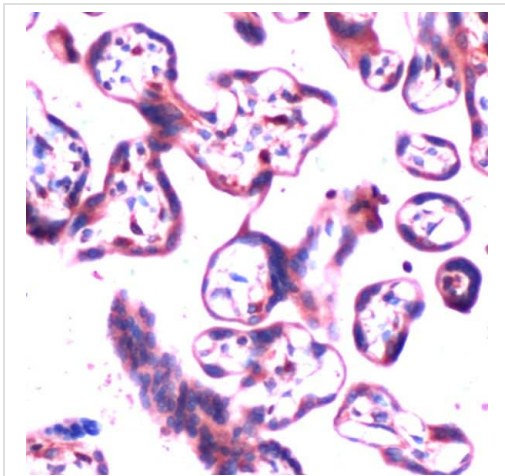
Post-translational modifications

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 α 5 β 3.

Cellular localization

Secreted > extracellular space > extracellular matrix. Membrane. Nucleus. Colocalizes with integrin α 5 β 3 at the membrane surface in angiogenic blood vessels and melanomas. Found in mitochondria, along microfibrils, and in nuclei of cardiomyocytes.

Images



Formalin-fixed, paraffin-embedded human placenta tissue stained for MMP2 using ab227755 at 1/100 dilution in immunohistochemical analysis.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MMP2 antibody (ab227755)

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