abcam

Product datasheet

Anti-MMP2 antibody [EPR1184] - BSA and Azide free ab271866

Recombinant RabMAb

6 Images

Overview

Product name	Anti-MMP2 antibody [EPR1184] - BSA and Azide free
Description	Rabbit monoclonal [EPR1184] to MMP2 - BSA and Azide free
Host species	Rabbit
Specificity	Compared with **ab92536**, **ab181286** has higher sensitivity. We recommend **ab181286** as an alternative for testing MMP2 in western blot.
Tested applications	**Suitable for:** Flow Cyt (Intra), WB, ICC/IF **Unsuitable for:** IHC-P
Species reactivity	**Reacts with:** Human **Predicted to work with:** Mouse, Rat
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: HepG2, L6, Raw264.7 and NIH/3T3 cell lysates; fetal heart and human skin tissue lysate; Human plasma, brain and breast tissue lysate ICC/IF: PC-3 cells Flow Cyt (intra): HeLa and PC-3 cells
General notes	ab271866 is the carrier-free version of **ab92536**. Our **carrier-free** antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. The carrier-free buffer and high concentration allow for increased conjugation efficiency. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications. Use our **conjugation kits** for antibody conjugates that are ready-to-use in as little as 20 minutes with <1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold. This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc. This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity

- Long-term security of supply
- Animal-free production

For more information **see here**.

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C. Do Not Freeze.
Storage buffer	pH: 7.20 Constituent: PBS
Carrier free	Yes
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR1184
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab271866 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
Flow Cyt (Intra)		Use at an assay dependent concentration. **ab172730** - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.
WB		Use at an assay dependent concentration. Predicted molecular weight: 73 kDa. For Lysate preparation protocol, please refer to the protocol here (downloadable copy). Compared with **ab92536**, **ab181286** has higher sensitivity. We recommend **ab181286** as an alternative for testing MMP2 in western blot.
ICC/IF		Use at an assay dependent concentration.

Application notes Is unsuitable for IHC-P.

Target

Function Ubiquitinous 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, posseses anti-angiogenic and anti-tumor properties and inhibits cell migration and cell adhesion to FGF2 and vitronectin. Ligand for integrinv/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.

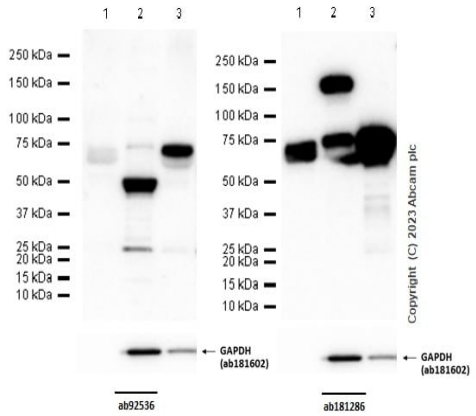
Post-translational modifications

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 integrinv/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 [EPR1184] - BSA and Azide free (ab271866)

All lanes : Anti-MMP2 antibody [EPR1184] (**ab92536**) at 1/1000 dilution

Lane 1 : Human plasma tissue lysate
Lane 2 : Human brain tissue lysate
Lane 3 : Human breast tissue lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Predicted band size: 73 kDa
Observed band size: 69,72 kDa

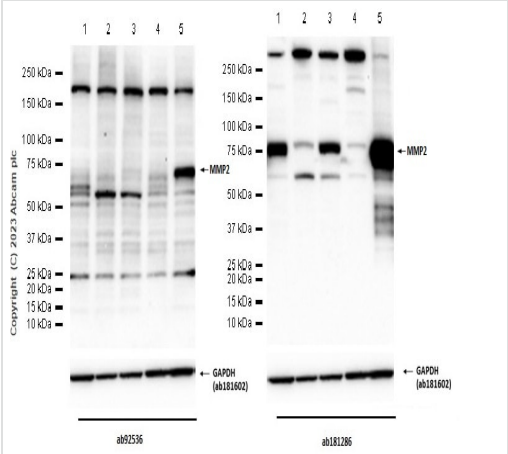
Exposure time: 60 seconds

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab92536**).

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

ab181602 was used as a GAPDH loading control.

Compared with **ab92536**, **ab181286** has higher sensitivity. We recommend **ab181286** as an alternative for testing MMP2 in western blot.



Western blot - Anti-MMP2 antibody [EPR1184] - BSA and Azide free (ab271866)

All lanes : Anti-MMP2 antibody [EPR1184] (**ab92536**) at 1/1000 dilution

Lane 1 : HT-1080 (Human fibrosarcoma epithelial cell) whole cell lysate
Lane 2 : Untreated HepG2 (Human hepatocellular carcinoma epithelial cell) whole cell lysate
Lane 3 : HepG2 (Human hepatocellular carcinoma epithelial cell) treated with 300ng/ml BFA for 24 hours whole cell lysate
Lane 4 : Huh7 (Human hepatocellular carcinoma epithelial cell) whole cell lysate
Lane 5 : U-87 MG (Human glioblastoma-astrocytoma epithelial cell) whole cell lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Predicted band size: 73 kDa
Observed band size: 69,72 kDa

Exposure time: 60 seconds

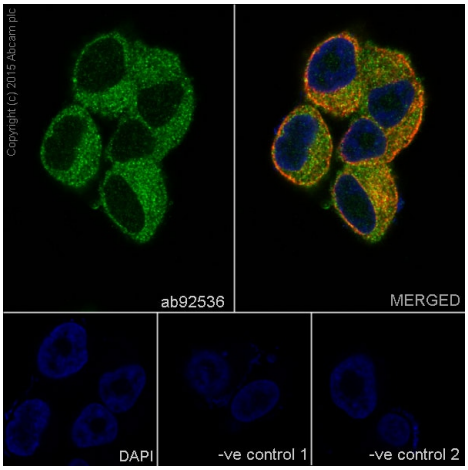
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and

sodium azide (**ab92536**).

Blocking and diluting buffer and concentration: 5% NFDM /TBST.

ab181602 was used as GAPDH loading control.

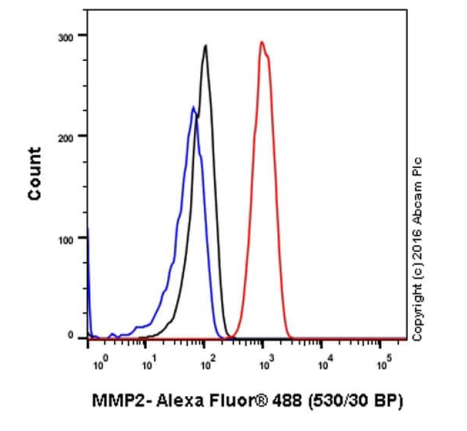
Compared with **ab92536**, **ab181286** has higher sensitivity. We recommend **ab181286** as an alternative for testing MMP2 in western blot.



Immunocytochemistry/ Immunofluorescence - Anti-MMP2 antibody [EPR1184] - BSA and Azide free (ab271866)

Immunofluorescence staining of PC-3 cells with purified **ab92536** at a working dilution of 1/250, counter-stained with DAPI. The secondary antibody was Alexa Fluor® 488 goat anti-rabbit (**ab150077**), used at a dilution of 1/1000. **ab7291**, a mouse anti-tubulin antibody (1/1000), was used to stain tubulin along with **ab150120** (Alexa Fluor® 594 goat anti-mouse, 1/1000), shown in the top right hand panel. The cells were fixed in 4% PFA and permeabilized using 0.1% Triton X 100. The negative controls are shown in bottom middle and right hand panels - for negative control 1, purified **ab92536** was used at a dilution of 1/500 followed by an Alexa Fluor® 594 goat anti-mouse antibody (**ab150120**) at a dilution of 1/500. For negative control 2, **ab7291** (mouse anti-tubulin) was used at a dilution of 1/500 followed by an Alexa Fluor® 488 goat anti-rabbit antibody (**ab150077**) at a dilution of 1/400.

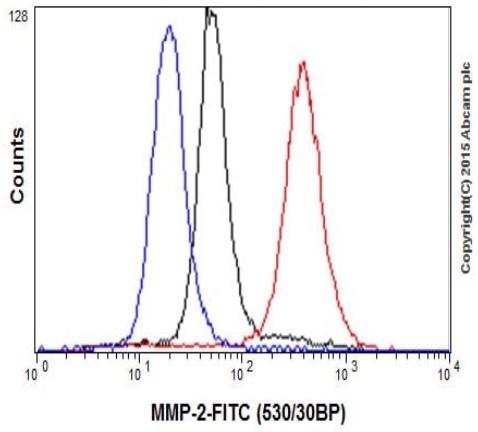
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab92536**).



Flow Cytometry (Intracellular) - Anti-MMP2 antibody [EPR1184] - BSA and Azide free (ab271866)

Intracellular Flow Cytometry analysis of PC-3 (human prostate adenocarcinoma) cells labeling MMP2 with purified **ab92536** at 1/180 dilution (10ug/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor® 488) (1/2000 dilution) was used as the secondary antibody. Rabbit monoclonal IgG (Black) was used as the isotype control, cells without incubation with primary antibody and secondary antibody (Blue) were used as the unlabeled control.

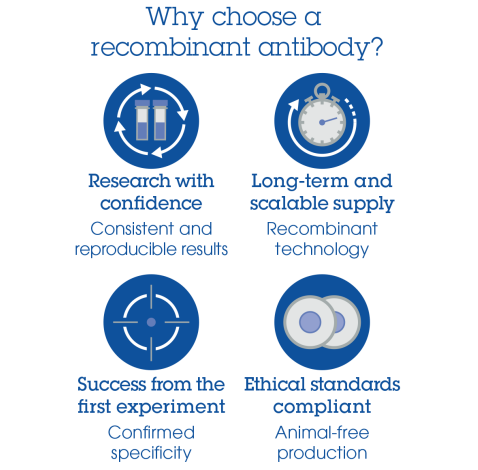
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab92536**).



Flow Cytometry (Intracellular) - Anti-MMP2 antibody [EPR1184] - BSA and Azide free (ab271866)

Overlay histogram showing HeLa cells fixed in 4% PFA and stained with purified **ab92536** at a dilution of 1 in 400 (red line). The secondary antibody used was FITC goat anti-rabbit at a dilution of 1 in 500. Rabbit monoclonal IgG was used as an isotype control (black line) and cells incubated in the absence of both primary and secondary antibody were used as a negative control (blue line).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab92536**).



Anti-MMP2 antibody [EPR1184] - BSA and Azide free (ab271866)

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours

- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise,

please visit **https://www.abcam.com/abpromise** or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors