abcam

Product datasheet

Anti-MMP1 antibody [EP1247Y] ab52631

Recombinant RabMAb

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Overview

Product name	Anti-MMP1 antibody [EP1247Y]
Description	Rabbit monoclonal [EP1247Y] to MMP1
Host species	Rabbit
Specificity	This antibody is able to detect recombinant protein in western blot but it failed to detect the endogenous protein. Therefore, we do not recommend the antibody in this application. For western blot application we recommend using **ab134184**.
Tested applications	**Suitable for:** ICC/IF, Flow Cyt (Intra), IHC-P **Unsuitable for:** IP or WB
Species reactivity	**Reacts with:** Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	IHC-P: Human testis, cervical carcinoma and placenta tissues. ICC/IF: HeLa and MCF7 cells. Flow Cyt (intra): HeLa cells.
General notes	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**. Rat: We have preliminary internal testing data to indicate this antibody may not react with this species. Please contact us for more information.

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. Stable for 12 months at -20°C.
Storage buffer	pH: 7.20 Preservative: 0.01% Sodium azide

	Constituents: 59% PBS, 40% Glycerol, 0.05% BSA
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EP1247Y
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab52631 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
ICC/IF		1/50.
Flow Cyt (Intra)		1/20. **ab172730** - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.
IHC-P	★★★★★ **(4)**	1/100. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol. See **IHC antigen retrieval protocols**.

Application notes Is unsuitable for IP or WB.

Target

Function Cleaves collagens of types I, II, and III at one site in the helical domain. Also cleaves collagens of types VII and X. In case of HIV infection, interacts and cleaves the secreted viral Tat protein, leading to a decrease in neuronal Tat's mediated neurotoxicity.

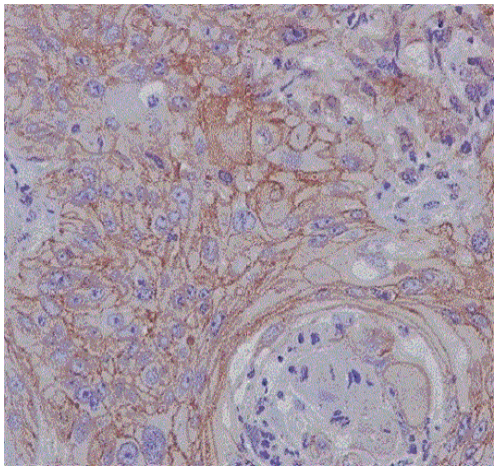
Sequence similarities Belongs to the peptidase M10A family.
Contains 4 hemopexin-like domains.

Domain There are two distinct domains in this protein; the catalytic N-terminal, and the C-terminal which is involved in substrate specificity and in binding TIMP (tissue inhibitor of metalloproteinases).
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 Undergoes autolytic cleavage to two major forms (22 kDa and 27 kDa). A minor form (25 kDa) is the glycosylated form of the 22 kDa form. The 27 kDa form has no activity while the 22/25 kDa form can act as activator for collagenase.

Cellular localization Secreted > extracellular space > extracellular matrix.

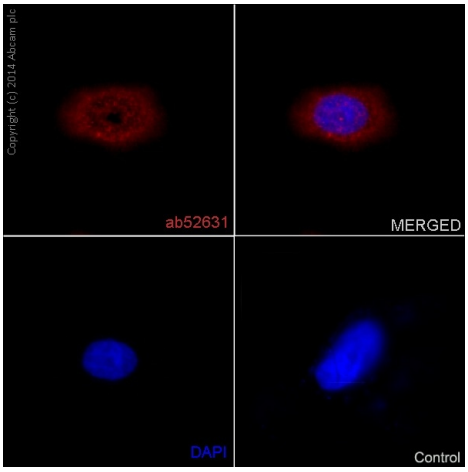
Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MMP1 antibody [EP1247Y] (ab52631)

Immunohistochemical analysis of paraffin-embedded human squamous cell carcinoma of cervix tissue labeling MMP1 with ab52631 at 1/100 dilution followed by Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**, 1/500). Counterstained with hematoxylin.

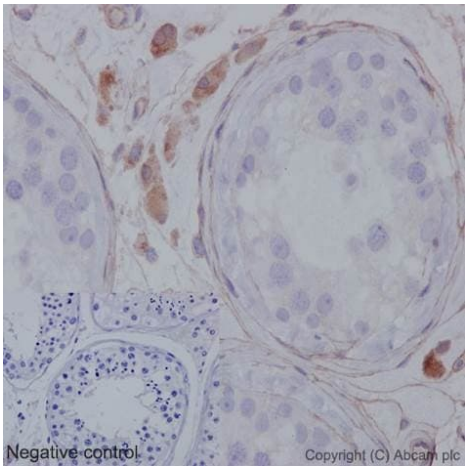
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-MMP1 antibody [EP1247Y] (ab52631)

Immunocytochemistry/Immunofluorescence analysis of HeLa cells labelling MMP1 with unpurified ab52631 at 1/30. Cells were fixed with 4% paraformaldehyde. An Alexa Fluor® 555-conjugated goat anti-rabbit IgG (1/500) was used as the secondary antibody. DAPI (blue) was used as the nuclear counterstain.

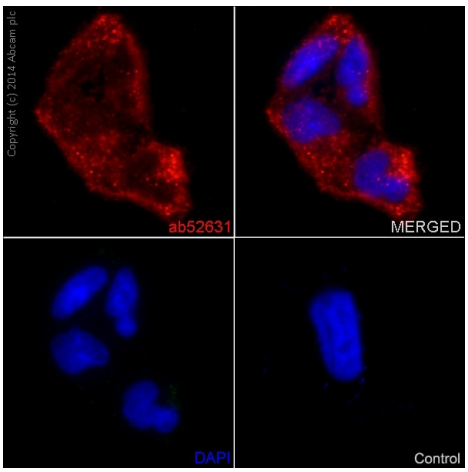
Control: primary antibody (1/30) and secondary antibody, **ab150120**, an Alexa Fluor® 594-conjugated goat anti-mouse IgG (1/500).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MMP1 antibody [EP1247Y] (ab52631)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human testis tissue labelling MMP1 with unpurified ab52631 at 1/60. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. A prediluted HRP-polymer conjugated anti-rabbit IgG was used as the secondary antibody. Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.

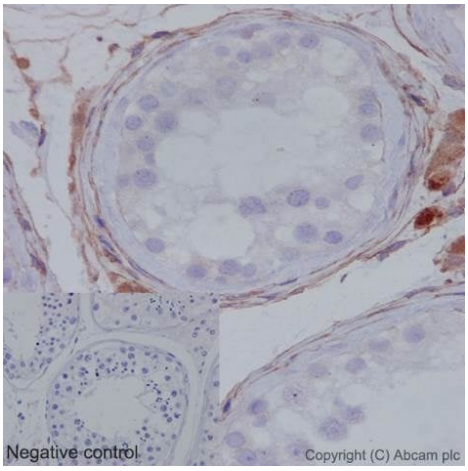
IHC result showed parenchymal cells (such as spermatogonium and spermatocytes) in seminiferous tubules were negative, and the stromal cells were stained.



Immunocytochemistry/ Immunofluorescence - Anti-MMP1 antibody [EP1247Y] (ab52631)

Immunocytochemistry/Immunofluorescence analysis of HeLa cells labelling MMP1 with purified ab52631 at 1/50. Cells were fixed with 4% paraformaldehyde. An Alexa Fluor® 555-conjugated goat anti-rabbit IgG (1/500) was used as the secondary antibody. DAPI (blue) was used as the nuclear counterstain.

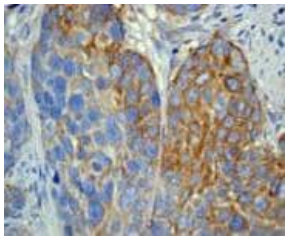
Control: primary antibody (1/50) and secondary antibody, **ab150120**, an Alexa Fluor® 594-conjugated goat anti-mouse IgG (1/500).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MMP1 antibody [EP1247Y] (ab52631)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human testis tissue labelling MMP1 with purified ab52631 at 1/100. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. A prediluted HRP-polymer conjugated anti-rabbit IgG was used as the secondary antibody. Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.

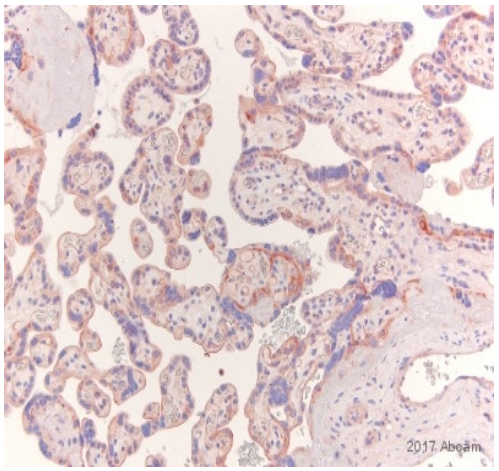
IHC result showed parenchymal cells (such as spermatogonium and spermatocytes) in seminiferous tubules were negative, and the stromal cells were stained.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MMP1 antibody [EP1247Y] (ab52631)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human cervical carcinoma tissue labelling MMP1 with ab52631 at 1/50.

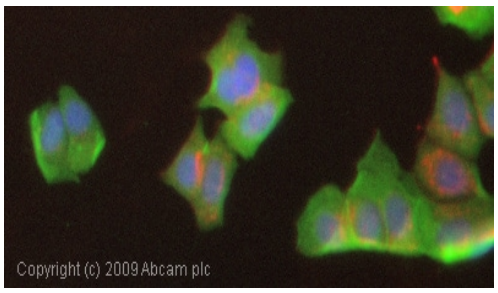
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MMP1 antibody [EP1247Y] (ab52631)

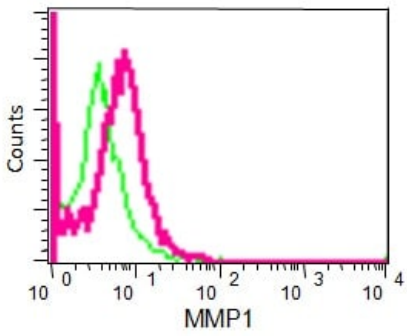
This image is courtesy of an anonymous Abreview.

Formaldehyde-fixed, paraffin-embedded human placenta tissue stained for MMP1 using ab52631 at 1/40 dilution in immunohistochemical analysis.



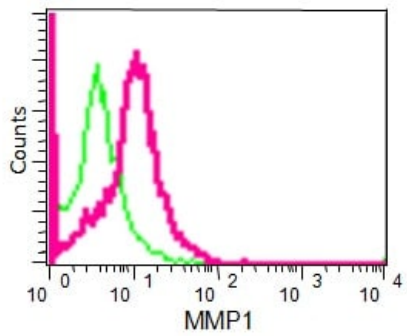
Immunocytochemistry/ Immunofluorescence - Anti-MMP1 antibody [EP1247Y] (ab52631)

ICC/IF image of unpurified ab52631 stained MCF7 cells. The cells were 4% PFA fixed (10 min) and then incubated in 1% BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab52631, 1/1000 dilution) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-rabbit IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.



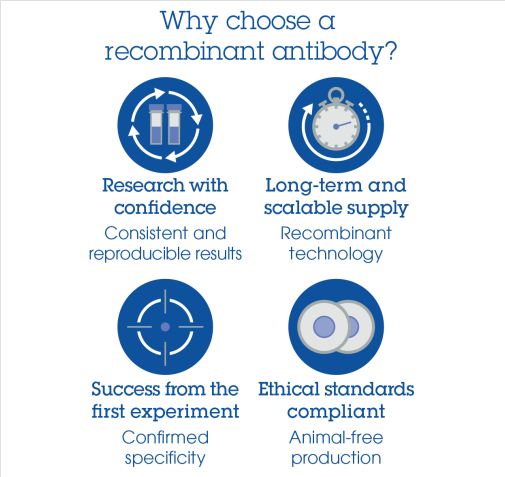
Flow Cytometry (Intracellular) - Anti-MMP1 antibody [EP1247Y] (ab52631)

Flow cytometry analysis of HeLa cells labelling MMP1 with purified ab52631 at 1/70 (red). Cells were fixed with 2% paraformaldehyde. A FITC-conjugated goat anti-rabbit IgG was used as the secondary antibody (1/150). Green - Isotype control, rabbit monoclonal IgG.



Flow Cytometry (Intracellular) - Anti-MMP1 antibody [EP1247Y] (ab52631)

Flow cytometry analysis of HeLa cells labelling MMP1 with unpurified ab52631 at 1/50 (red). Cells were fixed with 2% paraformaldehyde. A FITC-conjugated goat anti-rabbit IgG (1/150) was used as the secondary antibody. Green - Isotype control, rabbit monoclonal IgG.



Anti-MMP1 antibody [EP1247Y] (ab52631)

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