abcam

ab52631

Anti-MMP1 antibody [EP1247Y]

Anti-MMP1 antibody [EP1247Y] (ab52631) is a rabbit monoclonal antibody detecting MMP1 in **Flow Cytometry (Intra), IHC-P, ICC/IF**. Suitable for **Human**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 60 publications
- Trusted since 2007

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EP1247Y
Purification technique	Affinity purification Protein A
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.
Concentration	0.31 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/20
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

WB

Not recommended

Species	Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/100
Notes	

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

Target data

See full target information MMP1

Function	Cleaves collagens of types I, II, and III at one site in the helical domain. Also cleaves collagens of types VII and X (PubMed:1645757, PubMed:2153297, PubMed:2557822). In case of HIV infection, interacts and cleaves the secreted viral Tat protein, leading to a decrease in neuronal Tat's mediated neurotoxicity (PubMed:16807369).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Stable for 12 months at -20°C

Notes

What is this antibody validated in?
Anti-MMP1 antibody [EP1247Y] (ab52631) is a rabbit recombinant monoclonal antibody and is validated for use in Flow Cytometry (Intra), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human samples.

Trusted by the scientific community
Anti-MMP1 [EP1247Y] (ab52631) was first used in a scientific publication in 2007 and has been cited over 60 times in peer-reviewed journals.

Reviewed by scientists
Anti-MMP1 [EP1247Y] (ab52631) has over 5 independent reviews from customers.

Other related products
We have a range of other formats of antibody clone [EP1247Y] also available for your convenience: ab52631, Alexa Fluor® 647 - ab196905, Alexa Fluor® 488 - ab197233, PE - ab209574, Carrier free - ab215979, Carrier free - ab271845,

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

What are the advantages of a recombinant monoclonal antibody?
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 batch production

For more information, read more on recombinant antibodies.

Species reactivity
Rat: We have preliminary internal testing data to indicate this antibody may not react with this species.
Please contact us for more information.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	MMP1 also known as collagenase-1 is an enzyme belonging to the matrix metalloproteinase (MMP) family. It is responsible for the degradation of type I II and III collagens making it an important player in collagen turnover. MMP1 has a molecular weight of approximately 54 kDa. This enzyme is expressed in various tissues including skin lung and reproductive organs primarily during tissue remodeling and repair. Scientists often use MMP1 ELISA kits and MMP1 inhibitors to study its expression and activity levels.
Biological function summary	MMP1 plays a significant role in the modulation of the extracellular matrix. It facilitates cellular processes by breaking down structural proteins and allowing for cell migration proliferation and differentiation. Although it acts independently MMP1 works in harmony with other MMP family members to maintain extracellular matrix homeostasis and is often linked to tissue remodeling complexes. This makes the MMP1 a valuable target for researchers interested in tissue repair and fibrosis.
Pathways	Studies show MMP1 involvement in critical processes such as the inflammatory response and wound healing. In the inflammatory pathway MMP1 expression is regulated by cytokines that respond to tissue injury. Within the wound healing pathway this enzyme interacts with proteins like transforming growth factor-beta (TGF-beta) to coordinate the repair process by remodeling extracellular matrix components. This illustrates the interconnected nature of MMP1 with significant regulatory proteins.

Associated diseases and disorders	MMP1 has significant associations with osteoarthritis and cancer metastasis. MMP1 contributes to the breakdown of cartilage in osteoarthritis highlighting its role in disease progression and joint degradation. In the context of cancer elevated MMP1 expression correlates with the metastatic potential where it assists tumor invasion by degrading the surrounding matrix. MMP1's involvement with other MMPs including MMP2 and MMP9 highlights its importance in these pathological conditions making it a therapeutic target in related research.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

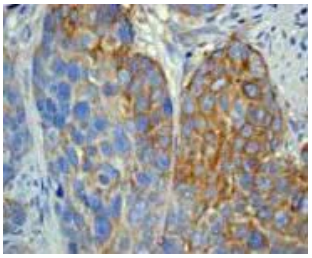
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

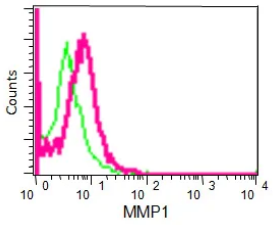
10 product images



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

MMP1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MMP1 antibody

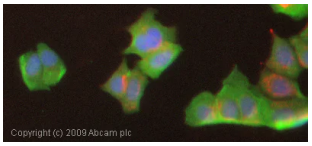
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human cervical carcinoma tissue labelling MMP1 with ab52631 at 1/50.
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



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

MMP1 Flow Cytometry (Intracellular) staining using rabbit Anti-MMP1 antibody

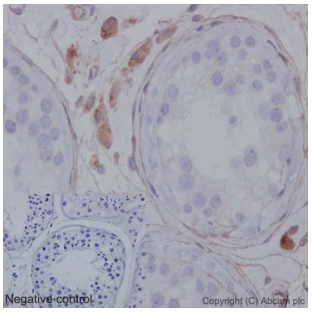
Flow cytometry analysis of HeLa cells labelling MMP1 with purified ab52631 at 1/70 (red). Cells were fixed with 2% paraformaldehyde. A FITC-conjugated goat anti-rabbit IgG was used as the secondary antibody (1/150). Green - Isotype control, rabbit monoclonal IgG.



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

MMP1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MMP1 antibody

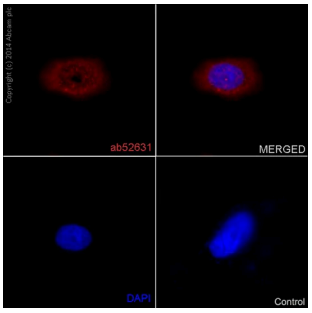
ICC/IF image of unpurified ab52631 stained MCF7 cells. The cells were 4% PFA fixed (10 min) and then incubated in 1% BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the 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.



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

MMP1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MMP1 antibody

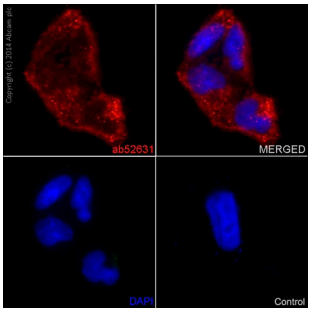
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human testis tissue labelling MMP1 with unpurified ab52631 at 1/60. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. A prediluted HRP-polymer conjugated anti-rabbit IgG was used as the secondary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

MMP1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MMP1 antibody

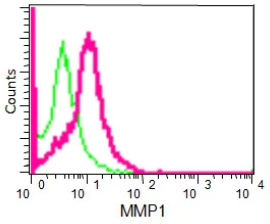
Immunocytochemistry/Immunofluorescence analysis of HeLa cells labelling MMP1 with unpurified ab52631 at 1/30. Cells were fixed with 4% paraformaldehyde. An Alexa Fluor® 555-conjugated goat anti-rabbit IgG (1/500) was used as the secondary antibody. DAPI (blue) was used as the nuclear counterstain.
Control: primary antibody (1/30) and secondary antibody ab150120 an Alexa Fluor® 594-conjugated goat anti-mouse IgG (1/500).



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

MMP1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MMP1 antibody

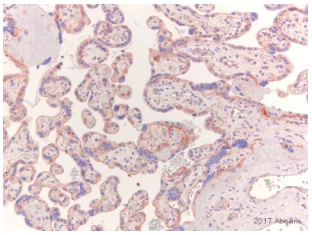
Immunocytochemistry/Immunofluorescence analysis of HeLa cells labelling MMP1 with purified ab52631 at 1/50. Cells were fixed with 4% paraformaldehyde. An Alexa Fluor® 555-conjugated goat anti-rabbit IgG (1/500) was used as the secondary antibody. DAPI (blue) was used as the nuclear counterstain.
Control: primary antibody (1/50) and secondary antibody ab150120 an Alexa Fluor® 594-conjugated goat anti-mouse IgG (1/500).



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

MMP1 Flow Cytometry (Intracellular) staining using rabbit Anti-MMP1 antibody

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.

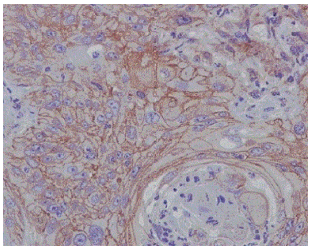


This image is courtesy of an anonymous customer review.

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

MMP1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MMP1 antibody

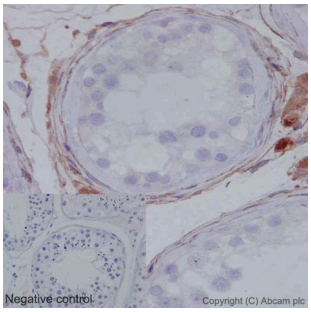
Formaldehyde-fixed, paraffin-embedded human placenta tissue stained for MMP1 using ab52631 at 1/40 dilution in immunohistochemical analysis.



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

MMP1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MMP1 antibody

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.



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

MMP1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MMP1 antibody

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.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.