abcam

ab313410

Anti-MMP16 antibody [RP23040073]

Recombinant

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Multiclonal
Immunogen	Recombinant Fragment Protein within Human MMP16. Database link P51512
Clone number	RP23040073
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/100
Notes	Perform heat-mediated antigen retrieval via the microwave method before commencing with IHC staining protocol.

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1 µg/mL
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Human
Dilution info	1-3 µg/mL
Notes	-

Species	Mouse
Dilution info	1-3 µg/mL
Notes	-

Species	Rat
Dilution info	1-3 µg/mL
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1-3 µg for 10^6 Cells
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information MMP16

Function	Endopeptidase that degrades various components of the extracellular matrix, such as collagen type III and fibronectin. Activates progelatinase A. Involved in the matrix remodeling of blood vessels. Isoform short cleaves fibronectin and also collagen type III, but at lower rate. It has no effect on type I, II, IV and V collagen. However, upon interaction with CSPG4, it may be involved in degradation and invasion of type I collagen by melanoma cells.

Storage

Shipped at conditions	Blue Ice
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	Avoid freeze / thaw cycle

Notes

What are recombinant multiclonals?
Recombinant multiclonals are a mixture of recombinant antibodies co-expressed from a library of heavy and light chains. They offer several advantages including:

- The sensitivity of polyclonal antibodies by recognising multiple epitopes
- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

View our range of recombinant multiclonal antibodies.

Supplementary info

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

Activity summary	MMP16 also known as MT3-MMP (membrane-type 3 matrix metalloproteinase) is an enzyme part of the matrix metalloproteinase family. It plays a mechanical role in the degradation of extracellular matrix components. MMP16 has a molecular mass of 66 kDa and has proteolytic activity that contributes to tissue remodeling processes. This protein is a membrane-bound enzyme expressed in several tissues including the brain lungs and placenta. In the central nervous system it aids in maintaining extracellular environment by breaking down proteins.
Biological function summary	MMP16 is essential in facilitating cellular activities such as migration invasion and angiogenesis. This protein operates as part of a complex that activates other MMPs including pro-MMP2 boosting their enzymatic activity. MMP16 participates in cellular remodeling by regulating the interactions between cells and their matrix which influences cell signaling and tissue morphogenesis.
Pathways	MMP16 integrates into pathways relevant to extracellular matrix remodeling and cell signaling. It is actively involved in the Wnt and MAPK signaling pathways which influence various biological processes including development and cell proliferation. MMP16 also shows interactions with other MMP family members like MMP2 and MMP14 which collectively modulate the local microenvironment and cellular dynamics.
Associated diseases and disorders	MMP16 is associated with cancer progression and neurodegenerative diseases. In cancer its upregulation correlates with tumor invasion and metastasis owing to its role in degradation of the basement membrane. MMP16 also contributes to neurodegenerative conditions like Alzheimer's Disease by affecting synaptic functions and neuron survival. It interacts with proteins like APP involved in Alzheimer's linking MMP16 to amyloid beta peptide processing and aggregation.

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.

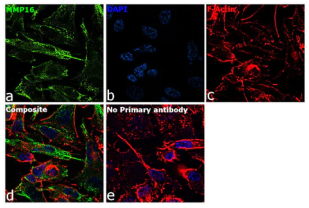
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

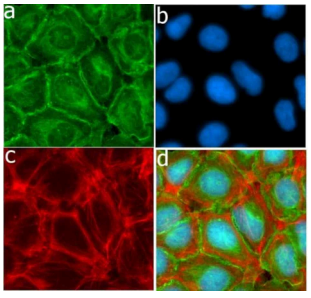
---

5 product images



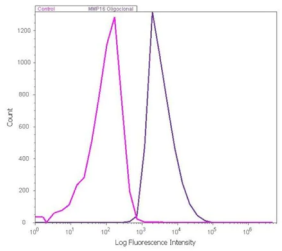
Immunocytochemistry/ Immunofluorescence - Anti-MMP16 Antibody [RP23040073] (ab313410)

Immunofluorescent analysis of 70% confluent log phase PC-3 cells fixed with 4% paraformaldehyde for 10 minutes, permeabilized with 0.1% Triton X-100 for 15 minutes, and blocked with 2% BSA for 45 minutes at room temperature labeling MMP16 with ab313410 at 1 µg/mL concentration followed by Donkey anti-Rabbit IgG (H+L) Highly Cross-Adsorbed Secondary Antibody, Alexa Fluor® 488 at 1/2000 dilution, for 45 minutes at room temperature (Panel a: Green). Nuclei (Panel b:Blue) were stained with DAPI. F-actin (Panel c: Red) was stained with Rhodamine Phalloidin at 1/300 dilution. Panel d represents the merged image showing cytoplasmic localization. Panel e represents control cells with no primary antibody to assess background. The images were captured at 60X magnification.



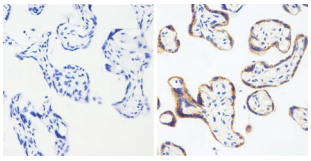
Immunocytochemistry/ Immunofluorescence - Anti-MMP16 Antibody [RP23040073] (ab313410)

Immunofluorescent analysis of HeLa cells fixed with 4% formaldehyde reconstituted in 1X PBS for 10 min at room temperature and permeabilized with 0.1 % Triton X-100 in PBS for 15 min at room temperature labeling MMP16 with ab313410 followed by detection using an Alexa Fluor® 488-conjugated Goat anti-Rabbit secondary antibody (green) (Image A). Nuclei were stained using DAPI (Image B) and actin stained with Alexa Fluor® 594 phalloidin (red) (image C). Image D is a composite image showing membrane localization of MMP-16.



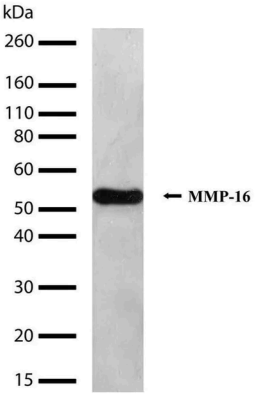
Flow Cytometry - Anti-MMP16 Antibody [RP23040073] (ab313410)

Flow cytometric analysis of HeLa cells fixed and permeabilized labeling MMP16 with ab313410 (right) compared with a Isotype control (left). Secondary antibody: Alexa Fluor® 488 Goat anti-Rabbit IgG.



Immunohistochemistry paraffin embedded sections - Anti-MMP16 Antibody [RP23040073] (ab313410)

Immunohistochemical analysis of paraffin-embedded human placenta tissue (right) compared to a negative control without primary antibody (left) labeling MMP16 with ab313410 at 1/100 dilution followed by a HRP-conjugated secondary antibody followed by colorimetric detection using a DAB kit. Counter stained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting. Antigen retrieval was performed using 10 mM sodium citrate (pH 6.0), microwaved for 8-15 min. Following antigen retrieval, tissues were blocked in 3% H2O2-methanol for 15 min at room temperature, washed with ddH2O and PBS.



Western blot - Anti-MMP16 Antibody [RP23040073] (ab313410)

All lanes:
Western blot - Anti-MMP16 Antibody [RP23040073] (ab313410) at 1 µg/mL

All lanes:
Jurkat whole cell extract

Developed using the ECL technique.

Observed band size: 52 kDa

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