abcam

ab276139

Anti-TIMP3 antibody [EPR23943-149] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR23943-149
Purification technique	Affinity purification Protein A
Concentration	0.989 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	-

Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information TIMP3

Function	Mediates a variety of processes including matrix regulation and turnover, inflammation, and angiogenesis, through reversible inhibition of zinc protease superfamily enzymes, primarily matrix metalloproteinases (MMPs). Regulates extracellular matrix (ECM) remodeling through inhibition of matrix metalloproteinases (MMP) including MMP-1, MMP-2, MMP-3, MMP-7, MMP-9, MMP-13, MMP-14 and MMP-15. Additionally, modulates the processing of amyloid precursor protein (APP) and apolipoprotein E receptor ApoER2 by inhibiting two alpha-secretases ADAM10 and ADAM17 (PubMed:17913923). Functions as a tumor suppressor and a potent inhibitor of angiogenesis. Exerts its anti-angiogenic effect by directly interacting with vascular endothelial growth factor (VEGF) receptor-2/KDR, preventing its binding to the VEGFA ligand (PubMed:12652295). Selectively induces apoptosis in angiogenic endothelial cells through a caspase-independent cell death pathway (PubMed:25558000). Mechanistically, inhibits matrix-induced focal adhesion kinase PTK2 tyrosine phosphorylation and association with paxillin/PXN and disrupts the incorporation of ITGB3, PTK2 and PXN into focal adhesion contacts on the matrix (PubMed:25558000).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

ab276139 is the carrier-free version of ab276134.

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.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. 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.

Compatibility

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.

Supplementary info

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

Activity summary	Tissue inhibitor of metalloproteinases 3 (TIMP3) is widely recognized for its role in inhibiting the activity of matrix metalloproteinases (MMPs). It has an approximate mass of 24 kDa and is often referred to by its alternate name MIG. TIMP3 is expressed in various tissues especially those involved in extracellular matrix composition such as the kidney and lungs. Its expression helps maintain the balance between matrix deposition and degradation which is critical for normal tissue homeostasis.
Biological function summary	The function of TIMP3 extends beyond mere inhibition of MMPs; it is also involved in regulating angiogenesis and apoptosis. TIMP3 forms complexes with extracellular matrix components acting as an anchor that modulates cell-matrix interactions. This capacity to bind to matrix elements enhances its inhibitory activity against proteases making it an important regulator of extracellular matrix integrity.
Pathways	TIMP3 plays significant roles in extracellular matrix remodeling and the inflammatory response. It participates in pathways involving structural

	organization and signaling mediation such as the NF-kB signaling cascade. TIMP3 regulates proteins like TNF-alpha and MMPs which are central to these pathways balancing inflammatory responses and tissue remodeling processes.
Associated diseases and disorders	The imbalance of TIMP3 activity has been linked to chronic obstructive pulmonary disease (COPD) and age-related macular degeneration (AMD). In COPD impaired regulation of ECM turnover by TIMP3 leads to destructive lung tissue remodeling. In AMD the regulation of angiogenesis and degradation of ECM around the retina by TIMP3 is disturbed influencing disease progression. Its interaction with proteins such as VEGF is critical in these pathological contexts where altered TIMP3 expression or function can exacerbate disease states.

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

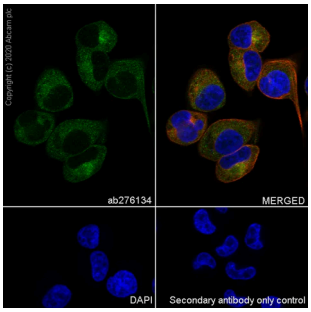
We do not recommend this combination. It is not covered by our product promise.

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.

6 product images

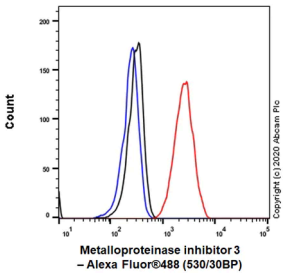


Immunocytochemistry/ Immunofluorescence - Anti-TIMP3 antibody [EPR23943-149] - BSA and Azide free (ab276139)

TIMP3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-TIMP3 antibody

This data was developed using ab276134, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized MDA-MB-231 cells labelling TIMP3 with ab276134 at 1/50 (9.16 ug/ml) dilution, followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing cytoplasmic staining in MDA-MB-231 cells is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution.

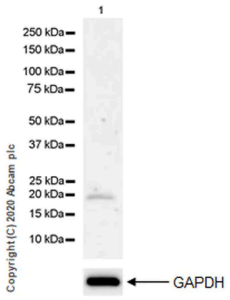


Flow Cytometry (Intracellular) - Anti-TIMP3 antibody [EPR23943-149] - BSA and Azide free (ab276139)

TIMP3 Flow Cytometry (Intracellular) staining using rabbit Anti-TIMP3 antibody

This data was developed using ab276134, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol-permeabilized MDA-MB-231 (human breast adenocarcinoma epithelial cell) cells labelling TIMP3 with ab276134 at 1/500 dilution (0.1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) isotype control (Black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

A Goat anti rabbit IgG (Alexa Fluor®488, ab150077) at 1/2000 dilution was used as the secondary antibody.



Western blot - Anti-TIMP3 antibody [EPR23943-149] - BSA and Azide free (ab276139)

TIMP3 Western blot staining of MDA-MB-231 (human breast adenocarcinoma epithelial cell) whole cell lysate using rabbit Anti-TIMP3 antibody

This data was developed using ab276134, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

The expression profile/ molecular weight observed is consistent with what has been described in the literature (PMID: 8174111, 30894640).

Exposure time: 3 minutes.

All lanes:
Western blot - Anti-TIMP3 antibody [EPR23943-149] (ab276134) at 1/1000 dilution

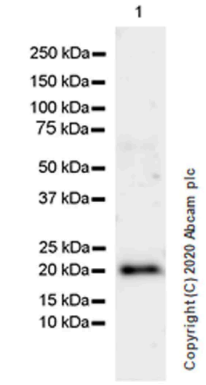
All lanes:
MDA-MB-231 (human breast adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Predicted band size: 24 kDa

Observed band size: 20 kDa



Western blot - Anti-TIMP3 antibody [EPR23943-149] - BSA and Azide free (ab276139)

TIMP3 Western blot staining of Human lung tissue lysate using rabbit Anti-TIMP3 antibody

This data was developed using ab276134, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

The expression profile/ molecular weight observed is consistent with what has been described in the literature (PMID: 8174111, 30894640).

Exposure time: 92 seconds.

All lanes:
Western blot - Anti-TIMP3 antibody [EPR23943-149] (ab276134) at 1/1000 dilution

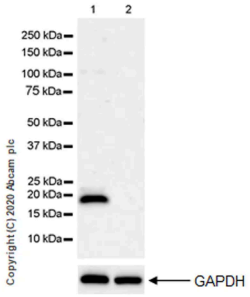
All lanes:
Human lung tissue lysate at 20 µg

Secondary

All lanes:
Western blot - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/1000 dilution

Predicted band size: 24 kDa

Observed band size: 20 kDa



Western blot - Anti-TIMP3 antibody [EPR23943-149] - BSA and Azide free (ab276139)

This data was developed using ab276134, the same antibody clone in a different buffer formulation. Blocking and diluting buffer and concentration: 5% NFDM/TBST. The expression profile/ molecular weight observed is consistent with what has been described in the literature (PMID: 8174111, 30894640). **Low expression tissue:** human liver (PMID:8174111). Exposure time: 125 seconds.
All lanes:
Western blot - Anti-TIMP3 antibody [EPR23943-149] (ab276134) at 1/1000 dilution

Lane 1:
Human placenta tissue lysate at 20 µg

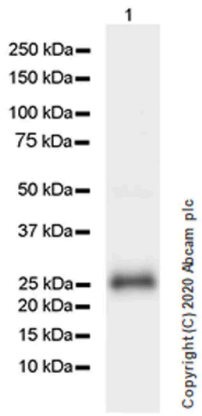
Lane 2:
Human liver tissue lysate at 20 µg

Secondary

All lanes:
Western blot - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/1000 dilution

Predicted band size: 24 kDa

Observed band size: 20 kDa



Western blot - Anti-TIMP3 antibody [EPR23943-149] - BSA and Azide free (ab276139)

This data was developed using ab276134, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration:

1 second

Exposure time:

All lanes:
Western blot - Anti-TIMP3 antibody [EPR23943-149] (ab276134) at 1/1000 dilution

All lanes:
Recombinant Human TIMP-3 Protein, 20ng

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Predicted band size: 24 kDa

Observed band size: 25 kDa

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