abcam

ab201453

Anti-TIM44 antibody [EPR16821-26]

Recombinant | RabMAb

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	EPR16821-26
Purification technique	Affinity purification Protein A
Concentration	1.696 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/120
Notes	-

Expected

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

WB

Tested

Species	Rat
Dilution info	1/2000
Notes	-

Species	Human
Dilution info	1/2000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500

Notes	-

Expected

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

Target data

See full target information TIMM44

Function	Essential component of the PAM complex, a complex required for the translocation of transit peptide-containing proteins from the inner membrane into the mitochondrial matrix in an ATP-dependent manner (By similarity). Recruits mitochondrial HSP70 to drive protein translocation into the matrix using ATP as an energy source (By similarity).

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	Avoid freeze / thaw cycle

Notes

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.

Supplementary info

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

Activity summary	TIM44 also known as translocase of inner mitochondrial membrane 44 serves an important role in mitochondrial protein import mechanisms. The protein weighs approximately 44 kDa and localizes in the inner mitochondrial membrane. TIM44 works as an essential part of the mitochondrial inner membrane presequence translocase complex where it assists in guiding proteins into the mitochondrial matrix. Expression of TIM44 is observed mainly in tissues with high energetic demands such as muscle and liver.
Biological function summary	TIM44 functions in conjunction with other components of the TIM23 complex which includes proteins like TIM23 and TIM17. The main role of TIM44 involves connecting the translocase complex to mitochondrial heat shock protein 70 (mtHsp70) facilitating ATP-dependent translocation of polypeptides. This process supports the import of precursor proteins synthesized in the cytosol into the mitochondria ensuring proper mitochondrial function and energy production.
Pathways	TIM44 influences the mitochondrial protein import pathway and the maintenance of mitochondrial function. As part of the protein import machinery it connects closely to the chaperone-mediated folding pathway aided by mtHsp70. The TIM23 complex participates in the translocation of proteins with mitochondrial targeting sequences linking TIM44 to pathways essential for mitochondrial biogenesis and function.
Associated diseases and disorders	Dysfunction in the TIM44 protein associates with mitochondrial disorders including those impacting oxidative phosphorylation capacity. Mutations or deficiencies in TIM44 have connections to disorders such as mitochondrial myopathy. Relation to other proteins such as mtHsp70 and components of oxidative phosphorylation emphasizes the role of TIM44 in cellular energy homeostasis and highlights its importance in maintaining mitochondrial health.

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.

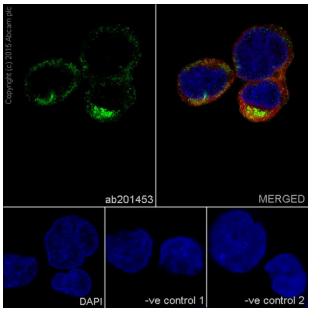
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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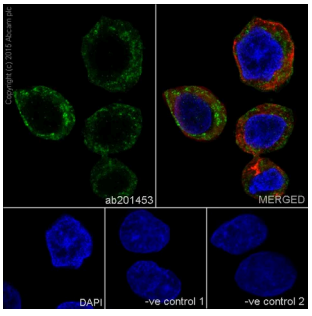
7 product images



Immunocytochemistry/ Immunofluorescence - Anti-TIM44 antibody [EPR16821-26] (ab201453)

TIM44 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-TIM44 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized K562 (Human chronic myelogenous leukemia cells from bone marrow) cells labeling TIM44 with ab201453 at 1/500 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/500 dilution (green). Confocal image showing cytoplasm staining on K562 cell line. The nuclear counter stain is DAPI (blue). Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution (red).
The negative controls are as follows:
-ve control 1: ab201453 at 1/500 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.
-ve control 2: ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/500 dilution.

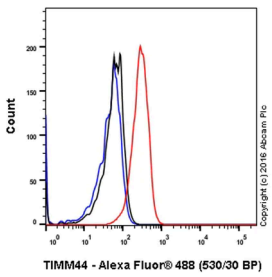


Immunocytochemistry/ Immunofluorescence - Anti-TIM44 antibody [EPR16821-26] (ab201453)

TIM44 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-TIM44 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HepG2 (Human liver hepatocellular carcinoma) cells labeling TIM44 with ab201453 at 1/500 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/500 dilution (green). Confocal image showing cytoplasm staining on HepG2 cell line. The nuclear counter stain is DAPI (blue). Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution (red).
The negative controls are as follows:
-ve control 1: ab201453 at 1/500 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.

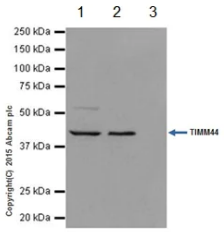
-ve control 2: ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/500 dilution.



Flow Cytometry (Intracellular) - Anti-TIM44 antibody [EPR16821-26] (ab201453)

TIM44 Flow Cytometry (Intracellular) staining using rabbit Anti-TIM44 antibody

Intracellular Flow Cytometry analysis of HepG2 (human hepatocellular carcinoma) labelling TIM44 with purified ab201453 at 1/500 (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. Alexa Fluor® 488 goat anti-rabbit IgG (1/2000) was used as the secondary antibody. Black - Isotype control, rabbit monoclonal IgG. Blue - Unlabelled control, cells without incubation with primary and secondary antibodies.



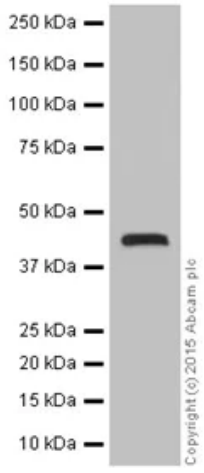
Immunoprecipitation - Anti-TIM44 antibody [EPR16821-26] (ab201453)

TIM44 was immunoprecipitated from 1mg of K562 (Human chronic myelogenous leukemia cells from bone marrow) whole cell lysate with ab201453 at 1/120 dilution. Western blot was performed from the immunoprecipitate using ab201453 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/1500 dilution.
Lane 1: K562 whole cell lysate 10 µg (Input). Lane 2: ab201453 IP in K562 whole cell lysate. Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab201453 in K562 whole cell lysate.
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 1 second.

All lanes:
Immunoprecipitation - Anti-TIM44 antibody [EPR16821-26] (ab201453)

Predicted band size: 51 kDa



Western blot - Anti-TIM44 antibody [EPR16821-26] (ab201453)

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-TIM44 antibody [EPR16821-26] (ab201453) at 1/10000 dilution

All lanes:
Human fetal liver lysate at 10 µg

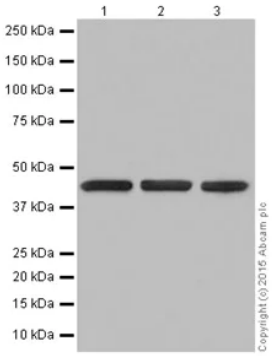
Secondary

All lanes:
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/1000 dilution

Predicted band size: 51 kDa

Observed band size: 45 kDa

Exposure time: 3min



Western blot - Anti-TIM44 antibody [EPR16821-26] (ab201453)

TIM44 Western blot staining using rabbit Anti-TIM44 antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-TIM44 antibody [EPR16821-26] (ab201453) at 1/2000 dilution

Lane 1:
K562 (Human chronic myelogenous leukemia cells from bone marrow) cell lysate at 20 µg

Lane 2:
HepG2 (Human liver hepatocellular carcinoma) cell lysate at 20 µg

Lane 3:
Daudi (Human Burkitt's lymphoma cell line) cell lysate at 20 µg

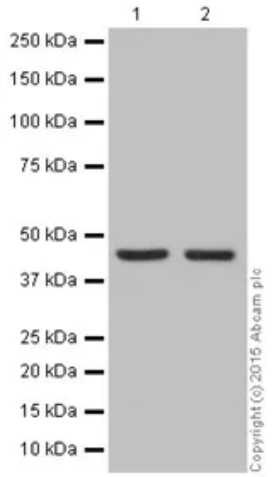
Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 51 kDa

Observed band size: 45 kDa

Exposure time: 3min



Western blot - Anti-TIM44 antibody [EPR16821-26] (ab201453)

TIM44 Western blot staining using rabbit Anti-TIM44 antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-TIM44 antibody [EPR16821-26] (ab201453) at 1/2000 dilution

Lane 1:
C6 (Rat glial tumor cells) cell lysate at 10 µg

Lane 2:
PC-12 (Rat adrenal gland pheochromocytoma) cell lysate at 10 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 51 kDa

Observed band size: 45 kDa

Exposure time: 3min

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