abcam

ab186734

Anti-TOMM20 antibody [EPR15581-39] - Mitochondrial Marker

Anti-TOMM20 antibody [EPR15581-39] - Mitochondrial Marker (ab186734) is a rabbit monoclonal antibody detecting TOMM20 in Western Blot, Flow Cytometry (Intra), IHC-P, ICC/IF. Suitable for Human, Mouse, Rat. - Biophysical QC for unrivalled batch-batch consistency - Over 100 publications Mouse and rat version of this clone also available as ab283317 and ab289670. Same clone, same staining pattern, different species antibody backbone. Learn more about chimeric antibodies

Lab Essentials | 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	EPR15581-39
Purification technique	Affinity purification Protein A
Concentration	0.242 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

Expected

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

ICC/IF

Tested

Species	Human
Dilution info	1/250 - 1/500
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/40
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse, Rat

Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/50 - 1/1000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/50 - 1/1000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Human
Dilution info	1/50 - 1/1000
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 TOMM20

Function

Central receptor component of the translocase of the outer membrane of mitochondria (TOM) complex essential for the recognition and translocation of cytosolically synthesized mitochondrial preproteins (PubMed:40080546). Together with TOMM22 functions as the transit peptide receptor at the surface of the mitochondrion outer membrane and facilitates the movement of preproteins into the TOM40 translocation pore (PubMed:18331822). The TOM complex associates with the ion channel VDAC2 and PINK1 kinase at depolarized mitochondria, this interaction stabilizes PINK1 at the outer mitochondrial membrane and triggers downstream mitophagy by the recruitment of the E3 ubiquitin ligase PRKN (PubMed:40080546). Required for the translocation across the mitochondrial outer membrane of cytochrome P450 monooxygenases (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

What is this antibody validated in?
Anti-TOMM20 antibody [EPR15581-39] - Mitochondrial Marker (ab186734) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Flow Cytometry (Flow Cyt), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

What is the molecular weight of TOMM20?
Anti-TOMM20 [EPR15581-39] - Mitochondrial Marker (ab186734) specifically detects a band for TOMM20 (UniProt: Q15388) at a molecular weight of 16kDa.

Trusted by the scientific community
Anti-TOMM20 [EPR15581-39] - Mitochondrial Marker (ab186734) was first used in a scientific publication in 2014 and has been cited over 90 times in peer-reviewed journals.

Reviewed by scientists
Anti-TOMM20 [EPR15581-39] - Mitochondrial Marker (ab186734) has over 5 independent reviews from customers.

Other related products
We have a range of other formats of antibody clone [EPR15581-39] also available for your convenience: ab186734, Alexa Fluor® 488 - ab205486, Alexa Fluor® 647 - ab205487, HRP - ab205796, Alexa Fluor® 555 - ab214409, Carrier free - ab220822, ab283317, Carrier free - ab283339, ab289670, Carrier free - ab289676, Alexa Fluor® 488 - ab309083, Alexa Fluor® 647 - ab309166, Alexa Fluor® 647 - ab309167

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.

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.

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

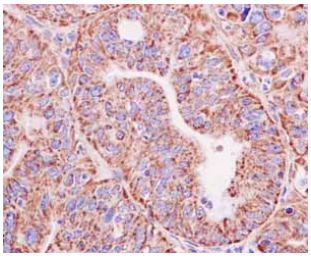
We do not recommend this combination. It is not covered by our product promise.

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.

14 product images

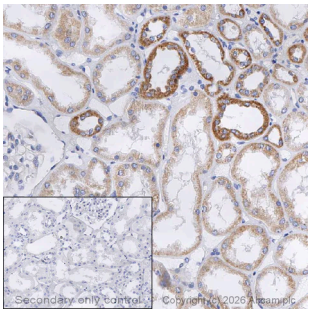


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TOMM20 antibody [EPR15581-39] - Mitochondrial Marker (ab186734)

TOMM20 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TOMM20 antibody

Immunohistochemical analysis of paraffin-embedded human endometrial adenocarcinoma tissue, labeling TOMM20 with ab186734 at 1/100 dilution.
Detected using HRP polymer for Rabbit IgG and counterstained using hematoxylin.

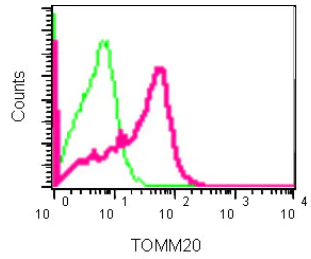
Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TOMM20 antibody [EPR15581-39] - Mitochondrial Marker (ab186734)

TOMM20 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human kidney using rabbit Anti-TOMM20 antibody

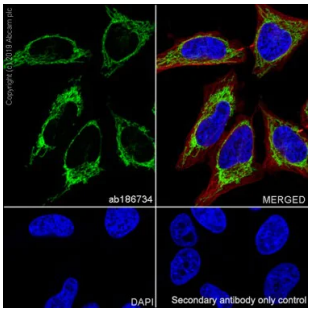
Immunohistochemical analysis of formalin fixed paraffin embedded human kidney labelling TOMM20 with ab186734 at a concentration of 0.01 µg/ml. The immunostaining was performed on a Ventana DISCOVERY ULTRA (Roche Tissue Diagnostics) instrument with a OptiView DAB IHC Detection Kit. The heat-mediated antigen retrieval was conducted with DISCOVERY cell conditioning solution (CC1) at 100 °C, pH 8.5 for 32 mins. ab186734 Anti-TOMM20 antibody [EPR15581-39] - Mitochondrial Marker was incubated for 16 mins, at 37 °C. Sections were counterstained with Hematoxylin II. Image inset shows absence of staining in secondary antibody only control.
Customers are encouraged to optimise antigen retrieval conditions, antibody concentration, incubation times and temperature for best results in their own IHC assay workflow (automated and manual).



Flow Cytometry (Intracellular) - Anti-TOMM20 antibody [EPR15581-39] - Mitochondrial Marker (ab186734)

TOMM20 Flow Cytometry (Intracellular) staining using rabbit Anti-TOMM20 antibody

Intracellular Flow Cytometry analysis of TOMM20 expression in NCI-H2228 (Human lung cancer cell line) cells using ab186734 at 1/40 dilution (pink) and a rabbit IgG as negative control (green).

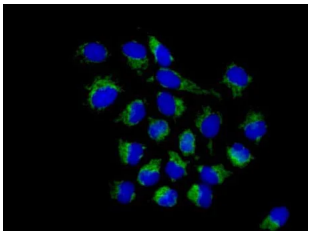


Immunocytochemistry/ Immunofluorescence - Anti-TOMM20 antibody [EPR15581-39] - Mitochondrial Marker (ab186734)

TOMM20 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-TOMM20 antibody

Immunocytochemistry/Immunofluorescence analysis of HeLa (human cervix adenocarcinoma epithelial cells) labeling TOMM20 with ab186734 at 1/500. Cells were fixed with 4% Paraformaldehyde and permeabilised with 0.1% TritonX-100. ab150077, an Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/1000) was used as the secondary antibody. DAPI (blue) was used as the nuclear counterstain.
ab195889, Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/100 was used as counterstain antibody.

Confocal image showing cytoplasmic staining in HeLa cells.

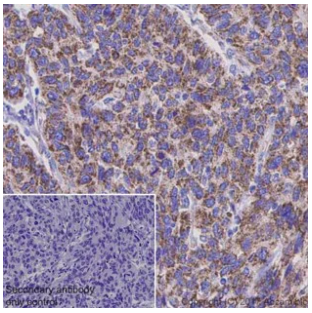


Immunocytochemistry/ Immunofluorescence - Anti-TOMM20 antibody [EPR15581-39] - Mitochondrial Marker (ab186734)

TOMM20 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-TOMM20 antibody

Immunofluorescence analysis of paraformaldehyde-fixed HeLa (Human epithelial cell line from cervix adenocarcinoma) cells, labeling TOMM20 (green) with ab186734 at 1/250 dilution.

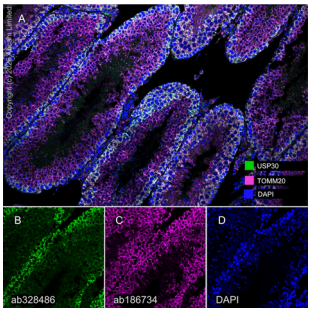
Alexa Fluor®488-conjugated goat anti-rabbit IgG was used as a secondary antibody at 1/200 dilution. Nuclei were counterstained with DAPI (blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TOMM20 antibody [EPR15581-39] - Mitochondrial Marker (ab186734)

TOMM20 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TOMM20 antibody

Immunohistochemical analysis of paraffin-embedded human cervical cancer tissue, labeling TOMM20 with ab186734 at 1/1000 dilution. Goat Anti-Rabbit IgG H&L (HRP) was used as the secondary antibody. Sections were counterstained with Hematoxylin. Antigen retrieval was heat mediated using ab93684 (Tris/EDTA buffer, pH 9.0).
Granular cytoplasmic staining on human cervical cancer.



Multiplex immunohistochemistry - Anti-TOMM20 antibody [EPR15581-39] - Mitochondrial Marker (ab186734)

TOMM20 Multiplex immunohistochemistry staining of Rat testis using rabbit Anti-TOMM20 antibody

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded rat testis tissue staining USP30 with ab328486 at a 1:2000 (0.252 µg/ml) dilution, ab186734 anti-TOMM20 used at 1:250 (0.42 µg/ml) dilution.

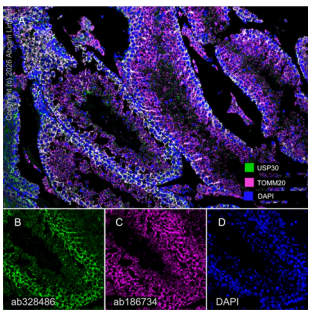
Panel A: anti-USP30 (green; Opal™520), anti-TOMM20 (magenta; Opal™570) on rat testis.
Panel B: anti-USP30 showed granular staining in rat testis.
Panel C: anti-TOMM20 showed mitochondrial staining in rat testis.
Panel D: Nuclear DNA was labeled with DAPI (shown in blue).

The section was incubated in three rounds of staining: in the order of ab328486 and ab186734 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image was taken with a confocal microscope (Leica-Microsystems, STELLARIS).

Nuclear counter stain with DAPI.

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Multiplex immunohistochemistry - Anti-TOMM20 antibody [EPR15581-39] - Mitochondrial Marker (ab186734)

TOMM20 Multiplex immunohistochemistry staining of Mouse testis using rabbit Anti-TOMM20 antibody

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded mouse testis tissue staining with ab328486 at a 1:2000 (0.252 µg/ml) dilution, ab186734 anti-TOMM20 used at 1:250 (0.42 µg/ml) dilution.

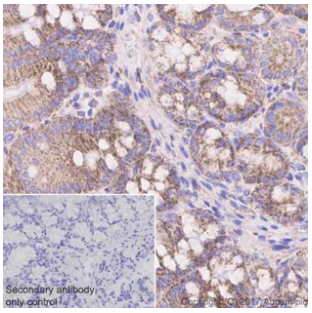
Panel A: anti-USP30 (green; Opal™520), anti-TOMM20 (magenta; Opal™570) on mouse testis.
Panel B: anti-USP30 showed granular staining in mouse testis.
Panel C: anti-TOMM20 showed mitochondrial staining in mouse testis.
Panel D: Nuclear DNA was labeled with DAPI (shown in blue).

The section was incubated in three rounds of staining: in the order of ab328486 and ab186734 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image was taken with a confocal microscope (Leica-Microsystems, STELLARIS).

Nuclear counter stain with DAPI.

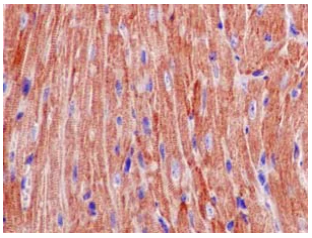
Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TOMM20 antibody [EPR15581-39] - Mitochondrial Marker (ab186734)

TOMM20 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TOMM20 antibody

Immunohistochemical analysis of paraffin-embedded mouse colon tissue, labeling TOMM20 with ab186734 at 1/1000 dilution. Goat Anti-Rabbit IgG H&L (HRP) was used as the secondary antibody. Sections were counterstained with Hematoxylin. Antigen retrieval was heat mediated using ab93684 (Tris/EDTA buffer, pH 9.0).
Granular cytoplasmic staining on mouse colon.

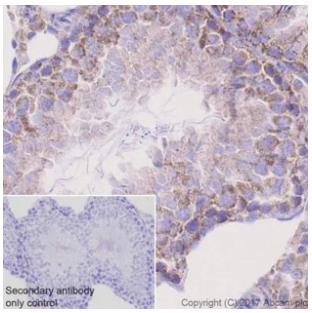


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TOMM20 antibody [EPR15581-39] - Mitochondrial Marker (ab186734)

TOMM20 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TOMM20 antibody

Immunohistochemical analysis of paraffin-embedded mouse cardiac muscle tissue labeling TOMM20 with ab186734 at 1/100 dilution.
Detected using HRP polymer for Rabbit IgG and counterstained using hematoxylin.

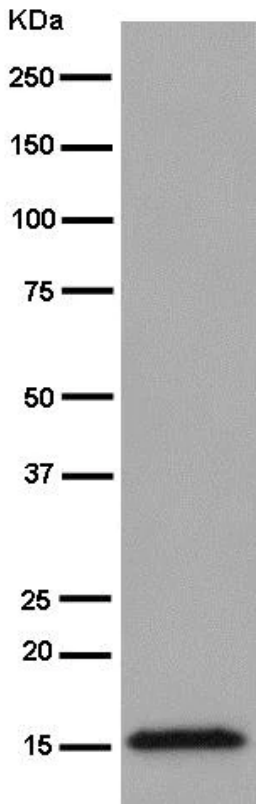
Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TOMM20 antibody [EPR15581-39] - Mitochondrial Marker (ab186734)

TOMM20 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TOMM20 antibody

Immunohistochemical analysis of paraffin-embedded rat testis tissue, labeling TOMM20 with ab186734 at 1/1000 dilution. Goat Anti-Rabbit IgG H&L (HRP) was used as the secondary antibody. Sections were counterstained with Hematoxylin. Antigen retrieval was heat mediated using ab93684 (Tris/EDTA buffer, pH 9.0).
Granular cytoplasmic staining on rat testis.



Western blot - Anti-TOMM20 antibody [EPR15581-39] - Mitochondrial Marker (ab186734)

All lanes:
Western blot - Anti-TOMM20 antibody [EPR15581-39] - Mitochondrial Marker (ab186734) at 1/5000 dilution

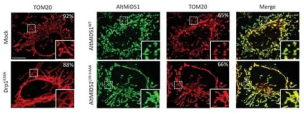
All lanes:
HepG2 (Human liver hepatocellular carcinoma cell line) cell lysate at 20 µg

Secondary

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

Predicted band size: 16 kDa

Observed band size: 16 kDa



Samandi et al eLife. 2017; 6: e27860. Published online 2017 Oct 30. doi: 10.7554/eLife.27860

Immunocytochemistry/ Immunofluorescence - Anti-TOMM20 antibody [EPR15581-39] - Mitochondrial Marker (ab186734)

TOMM20 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-TOMM20 antibody

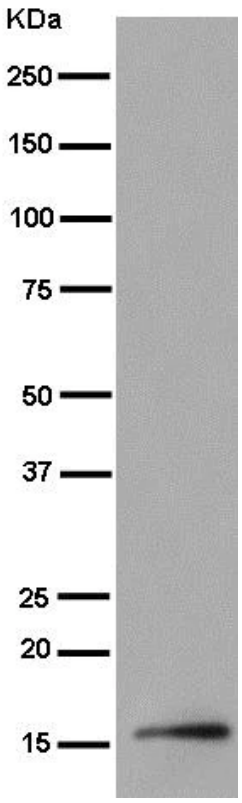
AltMiD51$^{5'}$ expression induces mitochondrial fission.
Confocal microscopy of mock-transfected cells, cells transfected with altMiD51^{WT}, altMiD51$^{LYR\boxtimes AAA}$ or Drp1^{K38A} immunostained with anti-TOMM20 (red channel) and anti-Flag (green channel) monoclonal antibodies. In each image, boxed areas are shown at higher magnification in the bottom right corner.

TOMM20 is detected using ab186734 at 1/500 dilution.

From Figure 12c of Samandi et al.

Samandi et al eLife. 2017; 6: e27860. Published online 2017 Oct 30. doi: 10.7554/eLife.27860' PMID: 29083303

Reproduced under the Creative Commons Attribution License, which permits unrestricted use and redistribution provided that the original author and source are credited.



Western blot - Anti-TOMM20 antibody [EPR15581-39] - Mitochondrial Marker (ab186734)

All lanes:
Western blot - Anti-TOMM20 antibody [EPR15581-39] - Mitochondrial Marker (ab186734) at 1/20000 dilution

All lanes:
HeLa (Human epithelial cell line from cervix adenocarcinoma) cell lysate at 20 µg

Secondary

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

Predicted band size: 16 kDa

Observed band size: 16 kDa

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