abcam

ab235447

Anti-TRP1 antibody [EPR21960]

Anti-TRP1 antibody [EPR21960] (ab235447) is a rabbit monoclonal antibody detecting TRP1 in **Western Blot, Flow Cytometry (Intra), IHC-P, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 20 publications

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	EPR21960
Purification technique	Affinity purification Protein A
Specificity	We recommend WB for human and mouse; we predict it will also work in WB with rat lysates but were unable to test this.
Concentration	0.663 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	We recommend WB for human and mouse; we predict it will also work in WB with rat lysates but were unable to test this.

Species	Human
Dilution info	1/1000
Notes	We recommend WB for human and mouse; we predict it will also work in WB with rat lysates but were unable to test this.

Expected

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

ICC/IF

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/60
Notes	-

Species	Human
Dilution info	1/60
Notes	-

Expected

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

IHC-P

Tested

Species	Mouse
Dilution info	1/4000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/4000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Human
Dilution info	1/4000
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 TYRP1

Function	Plays a role in melanin biosynthesis (PubMed:16704458, PubMed:22556244, PubMed:23504663). Catalyzes the oxidation of 5,6-dihydroxyindole-2-carboxylic acid (DHICA) into indole-5,6-quinone-2-carboxylic acid in the presence of bound Cu(2+) ions, but not in the presence of Zn(2+) (PubMed:28661582). May regulate or influence the type of melanin synthesized (PubMed:16704458, PubMed:22556244). Also to a lower extent, capable of hydroxylating tyrosine and producing melanin (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-TRP1 antibody [EPR21960] (ab235447) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

What is the molecular weight of TRP1?
Anti-TRP1 [EPR21960] (ab235447) specifically detects a band for TRP1 (UniProt: P17643) at a molecular weight of 61kDa.

Trusted by the scientific community
Anti-TRP1 [EPR21960] (ab235447) was first used in a scientific publication in 2018 and has been cited over 20 times in peer-reviewed journals.

Other related products
We have a range of other formats of antibody clone [EPR21960] also available for your convenience: ab235447, Carrier free - ab238418, Alexa Fluor® 488 - ab270104, Alexa Fluor® 647 - ab270105

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.

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	TRP1 (Tyrosinase-related protein 1) also known as gp75 is a copper-binding protein involved in melanin biosynthesis. TRP1 has a molecular mass of approximately 75 kDa. It is expressed mainly in melanocytes and retinal pigment epithelium cells where it contributes to pigmentation processes. TRP1 functions as an oxidase enzyme catalyzing steps in the transformation of dopa to melanin a pigment responsible for coloration in skin hair and eyes.
Biological function summary	TRP1 participates in a protein complex known as the melanosome. In this complex it plays a role in the proper polymerization and stabilization of eumelanin one type of melanin. It influences the quality and quantity of melanin produced affecting pigmentation. TRP1's interaction with other tyrosinase family members like tyrosinase and TRP2 is important in maintaining the complex's integrity and function with each member contributing uniquely to the melanogenesis process.
Pathways	TRP1 operates within the melanogenesis and WNT signaling pathways. In the melanogenesis pathway TRP1 works alongside tyrosinase for the production of melanin pigment. The WNT signaling pathway which is significant for cellular differentiation and proliferation connects TRP1 through regulatory networks that influence melanocyte development and pigmentation. Regulation of TRP1 and these proteins ensures proper melanin synthesis impacting pigmentation processes in the organism.
Associated diseases and disorders	TRP1 has connections to conditions such as albinism and melanoma. In albinism mutations in TRP1 can lead to reduced melanin production causing pigmentation defects. TRP1's altered expression has been linked to melanoma a type of skin cancer highlighting its role in melanin regulation and tumor biology. The relationship between TRP1 and tyrosinase in diseases like melanoma highlights the significance of their interaction in both normal pigmentation and disease progression.

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

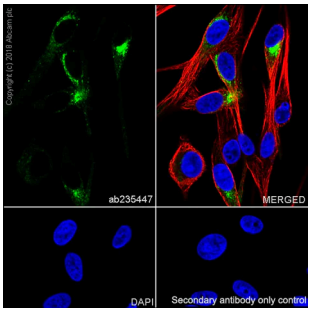
We do not recommend this combination. It is not covered by our product promise.

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.

9 product images

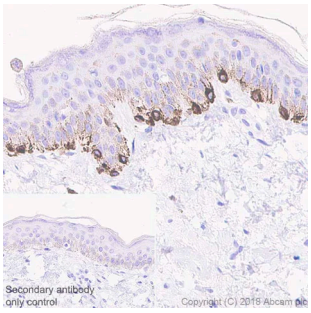


Immunocytochemistry/ Immunofluorescence - Anti-TRP1 antibody [EPR21960] (ab235447)

TRP1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-TRP1 antibody

Immunofluorescent analysis of 100% methanol fixed MeWo (human malignant melanoma fibroblast cell line) cells labeling TRP1 with ab235447 at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic staining in MeWo cell line.
The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (ab195889) (red) at 1/200 dilution.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.



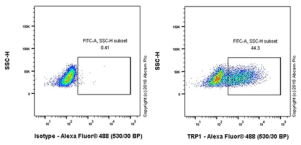
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TRP1 antibody [EPR21960] (ab235447)

TRP1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TRP1 antibody

Immunohistochemical analysis of paraffin-embedded human skin tissue labeling TRP1 with ab235447 at 1/4000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use. Positive staining of melanocytes in human skin (PMID:21562572). Counter stained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

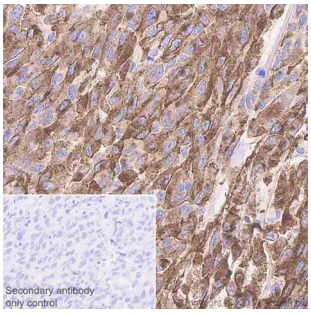
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-TRP1 antibody [EPR21960] (ab235447)

TRP1 Flow Cytometry (Intracellular) staining using rabbit Anti-TRP1 antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol permeabilized MeWo (human malignant melanoma fibroblast cell line) cells labeling TRP1 with ab235447 at 1/60 (right panel) compared with a Rabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730) (left panel). Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) at 1/2000 dilution was used as the secondary antibody.
TRP1 is predominantly expressed in mature melanosomes (PMID: 27073483, 11266471).

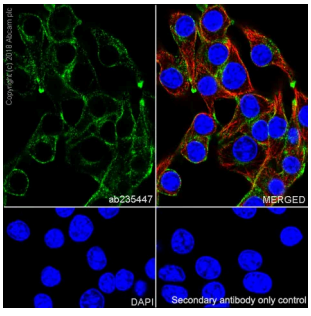


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TRP1 antibody [EPR21960] (ab235447)

TRP1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TRP1 antibody

Immunohistochemical analysis of paraffin-embedded human melanoma tissue labeling TRP1 with ab235447 at 1/4000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use.
Cytoplasmic staining in tumor cells of human melanoma (PMID: 22045183; 26068396). Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

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

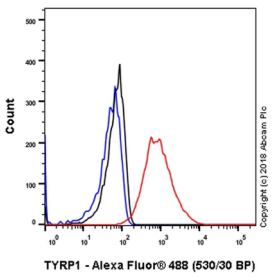


Immunocytochemistry/ Immunofluorescence - Anti-TRP1 antibody [EPR21960] (ab235447)

TRP1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-TRP1 antibody

Immunofluorescent analysis of 100% methanol fixed B16-F0 (mouse melanoma epithelial cell-like cell line) cells labeling TRP1 with ab235447 at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic and membranous staining in the B16-F0 cell line.
The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (ab195889) (red) at 1/200 dilution.

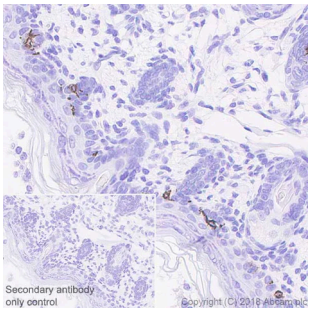
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.



Flow Cytometry (Intracellular) - Anti-TRP1 antibody [EPR21960] (ab235447)

TRP1 Flow Cytometry (Intracellular) staining using rabbit Anti-TRP1 antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol permeabilized B16-F0 (mouse melanoma epithelial cell-like cell line) cells labeling TRP1 with ab235447 at 1/60 (red) compared with a Rabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730) (black) and an unlabeled control (cells incubated with secondary antibody only) (blue). Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) at 1/2000 dilution was used as the secondary antibody.

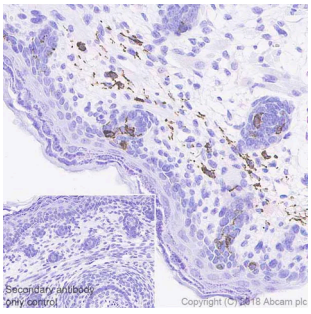


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TRP1 antibody [EPR21960] (ab235447)

TRP1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TRP1 antibody

Immunohistochemical analysis of paraffin-embedded rat skin tissue labeling TRP1 with ab235447 at 1/4000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use. Positive staining of melanocytes in rat skin (PMID: 21562572). Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

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

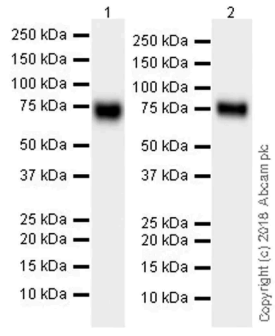


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TRP1 antibody [EPR21960] (ab235447)

TRP1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TRP1 antibody

Immunohistochemical analysis of paraffin-embedded mouse skin tissue labeling TRP1 with ab235447 at 1/4000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use. Positive staining of melanocytes in mouse skin (PMID: 21562572). Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

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



Western blot - Anti-TRP1 antibody [EPR21960] (ab235447)

TRP1 Western blot staining using rabbit Anti-TRP1 antibody

Exposure time: Lane 1: 10 seconds; Lane 2: 3 seconds.
Blocking/Dilution buffer: 5% NFDM/TBST.

The observed mass is greater than the predicted due to glycosylation.

The molecular mass observed is consistent with what has been described in the literature (PMID: 21324755; PMID: 18042623;18650849).

All lanes:
Western blot - Anti-TRP1 antibody [EPR21960] (ab235447) at 1/1000 dilution

Lane 1:
MeWo (human malignant melanoma fibroblast cell ine) whole cell lysate at 20 µg

Lane 2:
B16-F0 (mouse melanoma epithelial cell-like cell line) whole cell lysate at 20 µg

Secondary

Lane 1:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Lane 2:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 61 kDa

Observed band size: 75 kDa

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