abcam

ab185548

Anti-ABCE1 antibody [EPR15373(B)] - C-terminal

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	EPR15373(B)
Purification technique	Affinity purification Protein A
Concentration	1.17 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/30 - 1/50
Notes	-

Expected

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

WB

Tested

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

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

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

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/220
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	1/100
Notes	-

Species	Human
Dilution info	1/100
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information ABCE1

Function	Nucleoside-triphosphatase (NTPase) involved in ribosome recycling by mediating ribosome disassembly (PubMed:20122402, PubMed:21448132). Able to hydrolyze ATP, GTP, UTP and CTP (PubMed:20122402). Splits ribosomes into free 60S subunits

and tRNA- and mRNA-bound 40S subunits (PubMed:20122402, PubMed:21448132). Acts either after canonical termination facilitated by release factors (ETF1/eRF1) or after recognition of stalled and vacant ribosomes by mRNA surveillance factors (PELO/Pelota) (PubMed:20122402, PubMed:21448132). Involved in the No-Go Decay (NGD) pathway: recruited to stalled ribosomes by the Pelota-HBS1L complex, and drives the disassembly of stalled ribosomes, followed by degradation of damaged mRNAs as part of the NGD pathway (PubMed:21448132). Also plays a role in quality control of translation of mitochondrial outer membrane-localized mRNA (PubMed:29861391). As part of the PINK1-regulated signaling, ubiquitinated by CNOT4 upon mitochondria damage; this modification generates polyubiquitin signals that recruit autophagy receptors to the mitochondrial outer membrane and initiate mitophagy (PubMed:29861391). RNASEL-specific protein inhibitor which antagonizes the binding of 2-5A (5'-phosphorylated 2',5'-linked oligoadenylates) to RNASEL (PubMed:9660177). Negative regulator of the anti-viral effect of the interferon-regulated 2-5A/RNASEL pathway (PubMed:11585831, PubMed:9660177, PubMed:9847332). (Microbial infection) May act as a chaperone for post-translational events during HIV-1 capsid assembly. (Microbial infection) Plays a role in the down-regulation of the 2-5A/RNASEL pathway during encephalomyocarditis virus (EMCV) and HIV-1 infections.

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	ABCE1 also known as ATP-binding cassette sub-family E member 1 is an ATPase involved in various cellular processes. It belongs to the ATP-binding cassette (ABC) transporter family. The protein mass is approximately 68 kDa and its expression occurs widely in various tissues including the cytoplasm and mitochondria. ABCE1 has a unique structure with two nucleotide-binding domains making it distinct from other ABC family members that typically transport molecules across membranes.
Biological function summary	ABCE1 plays a role in inhibiting ribonuclease activity and is essential in ribosome recycling. This protein interacts with translation initiation factors and actively participates in the dissociation of ribosomes after translation termination. It is a part of the ribosome recycling complex an important multi-proteins setup necessary to prepare ribosomes for another round of translation. The biochemical interactions and presence in different cellular compartments highlight its multiple roles in cellular homeostasis.
Pathways	ABCE1 engages significantly in translation and its regulation. It plays an important role in the translation termination pathway where it interacts with eukaryotic release factors. Additionally it influences the degradation pathway of defective ribosomal products. Within these pathways the function of ABCE1 is closely linked to proteins like eRF1 and eRF3 which are essential in the translation termination process. The interaction of these proteins ensures efficient termination and recycling of translation machinery components.
Associated diseases and disorders	Alterations in ABCE1 expression or function link to certain cancers and viral infections. The aberrant activity of ABCE1 influences cancer progression as it affects protein synthesis and cellular growth levels. Also ABCE1 has been implicated in promoting the replication of certain viruses providing them a competitive advantage. Proteins like eIF3 and eIF4 involved in translation initiation can show altered associations in disorders where ABCE1 is dysregulated influencing disease outcomes and 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.

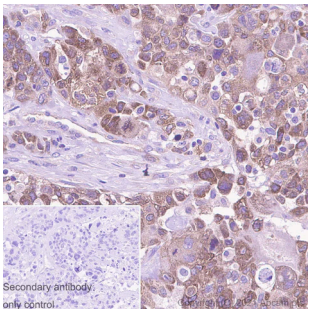
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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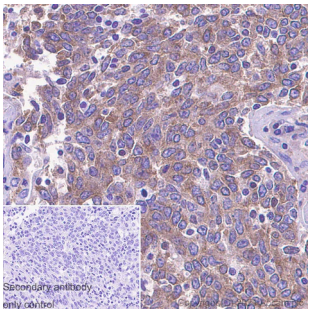
8 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ABCE1 antibody [EPR15373(B)] - C-terminal (ab185548)

ABCE1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ABCE1 antibody

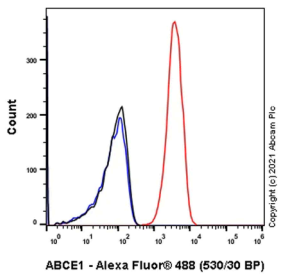
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human breast carcinoma tissue sections labeling ABCE1 with Purified ab185548 at 1:100 (11 µg/ml). Heat mediated antigen retrieval was performed using Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0) . Tissue was counterstained with Hematoxylin. Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) secondary antibody was used. PBS instead of the primary antibody was used as the negative control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ABCE1 antibody [EPR15373(B)] - C-terminal (ab185548)

ABCE1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ABCE1 antibody

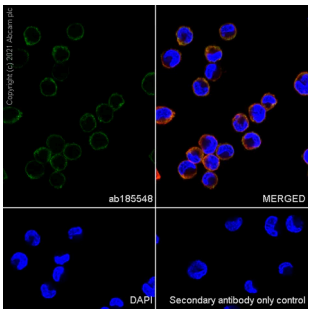
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human lung carcinoma tissue sections labeling ABCE1 with Purified ab185548 at 1:100 (11 µg/ml). Heat mediated antigen retrieval was performed using Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0) . Tissue was counterstained with Hematoxylin. Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) secondary antibody was used. PBS instead of the primary antibody was used as the negative control.



Flow Cytometry (Intracellular) - Anti-ABCE1 antibody [EPR15373(B)] - C-terminal (ab185548)

ABCE1 Flow Cytometry (Intracellular) staining using rabbit Anti-ABCE1 antibody

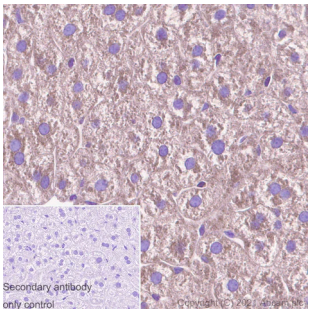
Flow Cytometry analysis of K-562 (Human chronic myelogenous leukemia lymphoblast) cells labelling ABCE1 with Purified ab185548 at 1:100 dilution (10 µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150081) secondary antibody was used at 1:2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabelled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Immunocytochemistry/ Immunofluorescence - Anti-ABCE1 antibody [EPR15373(B)] - C-terminal (ab185548)

ABCE1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ABCE1 antibody

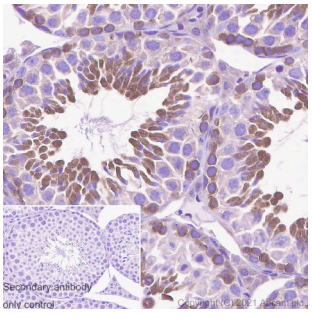
Immunocytochemistry analysis of K-562 (Human chronic myelogenous leukemia lymphoblast) cells labeling ABCE1 with Purified ab185548 at 1:100 dilution (10 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A]+H21:L21 - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ABCE1 antibody [EPR15373(B)] - C-terminal (ab185548)

ABCE1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ABCE1 antibody

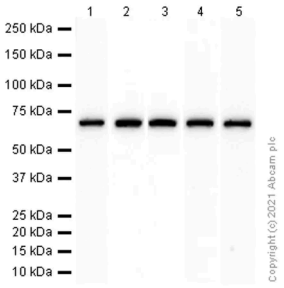
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse liver tissue sections labeling ABCE1 with Purified ab185548 at 1:300 (3.67 µg/ml). Heat mediated antigen retrieval was performed using Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0) . Tissue was counterstained with Hematoxylin. Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) secondary antibody was used. PBS instead of the primary antibody was used as the negative control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ABCE1 antibody [EPR15373(B)] - C-terminal (ab185548)

ABCE1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ABCE1 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse testis tissue sections labeling ABCE1 with Purified ab185548 at 1:300 (3.67 µg/ml). Heat mediated antigen retrieval was performed using Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0) . Tissue was counterstained with Hematoxylin. Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) secondary antibody was used. PBS instead of the primary antibody was used as the negative control.



Western blot - Anti-ABCE1 antibody [EPR15373(B)] - C-terminal (ab185548)

All lanes:
Western blot - Anti-ABCE1 antibody [EPR15373(B)] - C-terminal (ab185548) at 1/5000 dilution

Lane 1:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate

Lane 2:
K-562 (Human chronic myelogenous leukemia lymphoblast) whole cell lysate

Lane 3:
Jurkat (Human T cell leukemia T lymphocyte) whole cell lysate

Lane 4:
NIH/3T3 (Mouse embryonic fibroblast) whole cell lysate

Lane 5:
PC-12 (Rat adrenal gland pheochromocytoma) whole cell lysate

Secondary

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

Predicted band size: 67 kDa

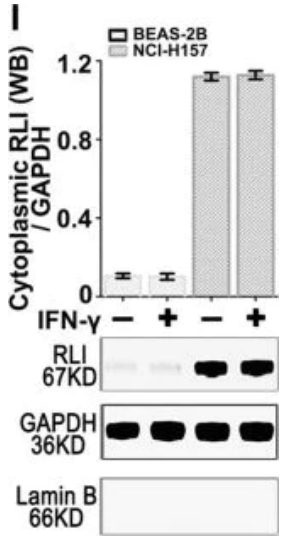


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Western blot - Anti-ABCE1 antibody [EPR15373(B)] - C-terminal (ab185548)

ABCE1 western blot using anti-ABCE1 antibody [EPR15373(B)] - C-terminal ab185548. Publication image and figure legend from Yin, H., Jiang, Z., et al., 2019, Cell Death Dis, PubMed 31501431.

ab185548 was used in this publication in western blot. This may not be the same as the application(s) guaranteed by Abcam. For a full list of applications guaranteed by Abcam for ab185548 please see the product overview.

Upregulation of RNase L by IFN-γ neutralized RLI and restored cleavage activity.a, b Dose dependence (a) and time course (b) of IFN-γ in restoring the cleavage activity of RNase L (n = 3). c Cleavage activity of RNase L in the presence of IFN-γ in BEAS-2B and NCI-H157 cells (n = 3). d Western blot of OAS1, OAS2, and OAS3 in the presence of IFN-γ in BEAS-2B and NCI-H157 cells. e, f Western blot verification and rRNA cleavage after OAS3 interference by siRNA; g, j Western blot of RNase L dimer or monomer in the cytoplasm (g) or nucleus (j) in the presence of IFN-γ in BEAS-2B and NCI-H157 cells. h, i, k, l Cytoplasmic (h, i) and nuclear (k, l) RLI expression (i, l) and IP with RNase L (h, k) in the presence of IFN-γ in BEAS-2B and NCI-H157 cells

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