abcam

ab236457

Anti-ABCB6/PRP antibody [EPR21891] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR21891
Purification technique	Affinity purification Protein A

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information ABCB6

Function	ATP-dependent transporter that catalyzes the transport of a broad-spectrum of porphyrins from the cytoplasm to the extracellular space through the plasma membrane or into the vesicle lumen (PubMed:17661442, PubMed:23792964, PubMed:27507172, PubMed:33007128). May also function as an ATP-dependent importer of porphyrins from the cytoplasm into the mitochondria, in turn may participate in the de novo heme biosynthesis regulation and in the coordination of heme and iron homeostasis during phenylhydrazine stress (PubMed:10837493, PubMed:17006453, PubMed:23792964, PubMed:33007128). May also play a key role in the early steps of melanogenesis producing PMEL amyloid fibrils (PubMed:29940187). In vitro, it confers to cells a resistance to toxic metal such as arsenic and cadmium and against chemotherapeutics agent such as 5-fluorouracil, SN-38 and vincristin (PubMed:21266531, PubMed:25202056, PubMed:31053883). In addition may play a role in the transition metal homeostasis (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab236457 is the carrier-free version of ab221159.

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	ABCB6 also known as PRP is a transporter protein that plays important roles in cellular processes. This protein is part of the ATP-binding cassette (ABC) transporters specifically the B subfamily which are known for moving various molecules across membranes. ABCB6 has a molecular mass of approximately 92 kDa. It is expressed in various tissues including the liver and erythroid cells indicating its widespread importance in the body.
Biological function summary	The ABCB6 protein is involved in the transport of porphyrins and other tetrapyrroles across membranes. These molecules are important for heme biosynthesis impacting red blood cell production and function. ABCB6 functions as a homodimer and is located on mitochondrial and lysosomal membranes. The transporter's ability to influence heme production links it to essential cellular metabolic processes.
Pathways	The ABCB6 protein is engaged in the heme biosynthesis and mitochondrial function pathways. Its activity supports the synthesis of heme a fundamental component of hemoglobin and other heme-containing proteins. ABCB6 interacts with other proteins such as ALAS2 the erythroid-specific isoform of delta-aminolevulinic acid synthase regulating heme synthesis in erythroid cells. This connection highlights its role in maintaining adequate heme levels within cells.
Associated diseases and disorders	ABCB6 has been implicated in conditions such as porphyria and anemia. Porphyria is a group of disorders stemming from defects in heme biosynthesis where mutations in ABCB6 may disrupt porphyrin transport aggravating symptoms. Anemia can also arise from impaired ABCB6 function as inadequate heme production affects red blood cell development. In these contexts ABCB6 can connect with proteins like ferrochelatase which plays a role in the final step of heme production illustrating the impact of ABCB6 on 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

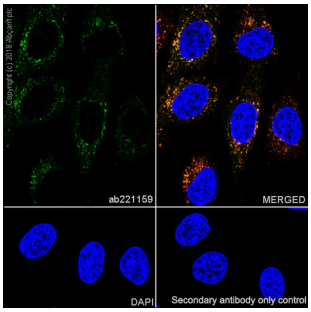
We do not recommend this combination. It is not covered by our product promise.

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.

3 product images



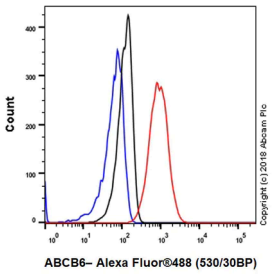
Immunocytochemistry/ Immunofluorescence - Anti-ABCB6/PRP antibody [EPR21891] - BSA and Azide free (ab236457)

ABCB6/PRP Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ABCB6/PRP antibody

Immunofluorescent analysis of 4% paraformaldehyde fixed, 0.1% Triton X-100 permeabilized HeLa (human epithelial cell line from cervix adenocarcinoma) cells labeling ABCB6/PRP with ab221159 at 1/500 dilution, followed by ab150077 AlexaFluorGoat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing lysosome staining in K-562 cell line.
The nuclear counter stain is DAPI (blue). Counterstained with ab25630 anti-LAMP1 (mouse mAb) at 100 dilution and ab150120 AlexaFluor®594 Goat anti-Mouse secondary at 1/1000 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.

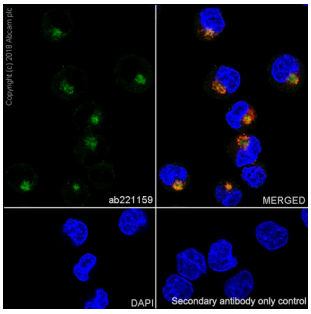
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab221159).



Flow Cytometry (Intracellular) - Anti-ABCB6/PRP antibody [EPR21891] - BSA and Azide free (ab236457)

ABCB6/PRP Flow Cytometry (Intracellular) staining using rabbit Anti-ABCB6/PRP antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol permeabilized HeLa (human epithelial cell line from cervix adenocarcinoma) cell line labeling ABCB6/PRP with ab221159 at 1/500 dilution (red) compared with a Rabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730) (black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) at 1/2000 dilution was used as the secondary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab221159).



Immunocytochemistry/ Immunofluorescence - Anti-ABCB6/PRP antibody [EPR21891] - BSA and Azide free (ab236457)

ABCB6/PRP Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ABCB6/PRP antibody

Immunofluorescent analysis of 4% paraformaldehyde fixed, 0.1% Triton X-100 permeabilized K-562 (human chronic myelogenous leukemia cell line from bone marrow) cells labeling ABCB6/PRP with ab221159 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing lysosome staining in K-562 cell line.
The nuclear counter stain is DAPI (blue). Counterstained with ab25630 anti-LAMP1 (mouse mAb) at 100 dilution and ab150120 AlexaFluor®594 Goat anti-Mouse secondary at 1/1000 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.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab221159).

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