abcam

ab171944

Anti-QPRT antibody [EPR11941(B)]

Recombinant | RabMAb | KO Validated

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	EPR11941(B)
Purification technique	Affinity purification Protein A
Concentration	0.228 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	2 µg
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/500 - 1/5000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Not recommended

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

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

Target data

See full target information Nicotinate-nucleotide pyrophosphorylase [carboxylating]

Function	Involved in the catabolism of quinolinic acid (QA).

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	QPRT also known as Nicotinate-nucleotide pyrophosphorylase [carboxylating] or Quinolinate phosphoribosyltransferase functions as an important enzyme in the kynurenine pathway a metabolic pathway leading to the production of nicotinamide adenine dinucleotide (NAD+). The enzyme catalyzes the conversion of quinolinate to nicotinic acid mononucleotide. QPRT has a molecular mass of approximately 34 kDa. It is expressed in various tissues most notably in the liver kidney and brain.
Biological function summary	QPRT influences the synthesis of NAD+ which is essential for cellular redox reactions and energy metabolism. The enzyme operates as a monomer and does not typically form part of a larger complex. However its activity is important in maintaining NAD+ levels which can impact a wide range of cellular processes such as DNA repair signal transduction and metabolism.
Pathways	QPRT holds a significant role in the kynurenine pathway and NAD+ biosynthesis. This pathway includes several enzymes such as kynurenine 3-monooxygenase and kynureninase which collaboratively contribute to the degradation of tryptophan ultimately affecting the levels of important coenzymes and neurotransmitters. The NAD+ biosynthesis pathway involving QPRT also interacts with pathways for ATP generation connecting with other metabolic processes.
Associated diseases and disorders	QPRT's malfunction links to neurological disorders such as Alzheimer's disease due to its role in NAD+ metabolism and potential effects on neuronal health and energy supply. Additionally alterations in QPRT activity have associations with liver diseases considering its expression and function in metabolic pathways within hepatic tissues. Interaction with proteins like kynurenine aminotransferase highlights its involvement in maintaining metabolic balance within these conditions.

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.

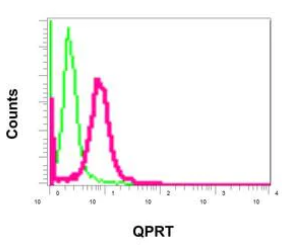
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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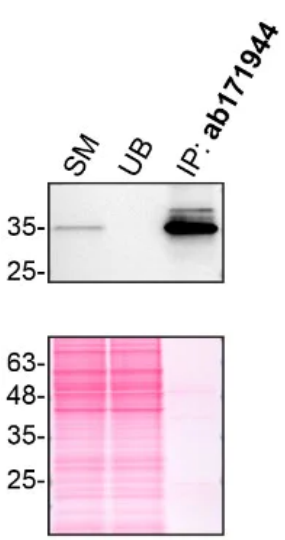
5 product images



Flow Cytometry (Intracellular) - Anti-QPRT antibody [EPR11941(B)] (ab171944)

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

Intracellular flow cytometric analysis of permeabilized Jurkat cells labeling QPRTwith ab171944 at 1/10 (red)or a rabbit IgG (negative) (green).



Immunoprecipitation - Anti-QPRT antibody [EPR11941(B)] (ab171944)

Immunoprecipitation of QPRT in HAP1 cells. Lysates were prepared and immunoprecipitation was performed using 2.0 µg of ab171944 pre-coupled to Protein A beads. Samples were washed and processed for western blot with ab171944 at 1/1000

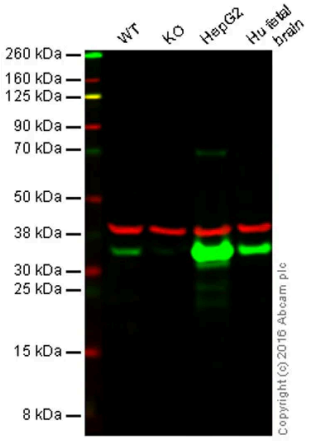
This data was provided by YCharOS Inc., an open science company with the mission of characterizing commercially available antibody reagents for all human proteins. Abcam and YCharOS are working together to help address the reproducibility crisis by enabling the life science community to better evaluate commercially available antibodies.
Lane 1:
Immunoprecipitation - Anti-QPRT antibody [EPR11941(B)] (ab171944) at 1/1000 dilution

Lane 3:

Immunoprecipitation - Anti-QPRT antibody [EPR11941(B)] (ab171944) at 2 µg

All lanes:
HAP1 cells

Observed band size: 31 kDa



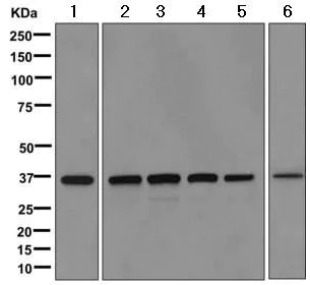
Western blot - Anti-QPRT antibody [EPR11941(B)] (ab171944)

QPRT Western blot staining using rabbit Anti-QPRT antibody

Lane 1: Wild-type HAP1 cell lysate (20 µg)
Lane 2: QPRT knockout HAP1 cell lysate (20 µg)
Lane 3: HepG2 cell lysate (20 µg)
Lane 4: Human fetal brain cell lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green). Green - ab171944 observed at 35 kDa. Red - loading control, ab8245, observed at 37 kDa.
ab171944 was shown to specifically react with QPRT when QPRT knockout samples were used. Wild-type and QPRT knockout samples were subjected to SDS-PAGE. ab171944 and ab8245 (loading control to GAPDH) were diluted 1/1000 and 1/10 000 respectively and incubated overnight at 4°C. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed ab216773 and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed ab216776 secondary antibodies at 1/10 000 dilution for 1 h at room temperature before imaging.

All lanes:
Western blot - Anti-QPRT antibody [EPR11941(B)] (ab171944)

Predicted band size: 31 kDa



Western blot - Anti-QPRT antibody [EPR11941(B)] (ab171944)

All lanes:
Western blot - Anti-QPRT antibody [EPR11941(B)] (ab171944) at 1/1000 dilution

Lane 1:
Human fetal kidney tissue lysate at 10 µg

Lane 2:
Human fetal liver tissue lysate at 10 µg

Lane 3:
HepG2 cell lysate at 10 µg

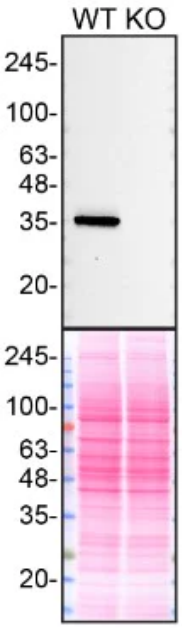
Lane 4:
HeLa cell lysate at 10 µg

Lane 5:
Jurkat cell lysate at 10 µg

Lane 6:
Human fetal heart tissue lysate at 10 µg

Developed using the ECL technique.

Predicted band size: 31 kDa



Western blot - Anti-QPRT antibody [EPR11941(B)] (ab171944)

ab171944 was shown to react with QPRT in wild-type HAP1 cells in Western blot with loss of signal observed in a QPRT knockout cell line. Wild-type HAP1 and QPRT knockout cell lysates were subjected to SDS-PAGE. Membranes were blocked in 5% milk in TBST for 1 hr before incubation with ab171944 overnight at 4 °C at a 1/500 dilution. Blots were incubated with secondary antibodies at 0.2ug/mL before imaging.

This data was provided by YCharOS Inc., an open science company with the mission of characterizing commercially available antibody reagents for all human proteins. Abcam and YCharOS are working together to help address the reproducibility crisis by enabling the life science community to better evaluate commercially available antibodies.
All lanes:
Western blot - Anti-QPRT antibody [EPR11941(B)] (ab171944) at 1/500 dilution

Lane 1:
Wild-type HAP1 lysate at 20 µg

Lane 2:
QPRT knock-out HAP1 lysate at 20 µg

Predicted band size: 31 kDa

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