abcam

ab182154

Anti-Nucleoside triphosphate phosphohydrolase antibody [EPR14325]

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 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	EPR14325
Purity	Tissue culture supernatant

Reactivity data

IP

Tested

Species	Human
Dilution info	1/20
Notes	-

WB

Tested

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/230
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Target data

See full target information NTPCR

Function	Has nucleotide phosphatase activity towards ATP, GTP, CTP, TTP and UTP. Hydrolyzes nucleoside diphosphates with lower efficiency.

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	Nucleoside triphosphate phosphohydrolase often called NTPase is an enzyme responsible for the hydrolysis of nucleoside triphosphates. It plays an important role in converting nucleoside triphosphates to nucleoside diphosphates with the release of inorganic phosphate. This process is important as it regulates the availability of nucleotides for various biological functions. NTPase typically with a mass of approximately 70 kDa is expressed in various tissues but shows high activity in tissues with rapid cell division. It is particularly studied in cellular lines such as HEK293T where it assists in the investigation of cellular mechanisms.
Biological function summary	This enzyme participates in critical cellular processes by managing the concentration of nucleoside triphosphates. Its activity influences DNA and RNA synthesis signal transduction and energy transfer. NTPase does not generally form complexes with other proteins but may interact with other molecules transiently during its catalytic action. This transient nature allows it to act efficiently where nucleoside triphosphate function is necessary.
Pathways	NTPase influences multiple biochemical pathways important for cell viability and function. It plays a role in the nucleotide metabolism pathway which is essential for DNA and RNA biosynthesis. Moreover its involvement in the energy transfer pathway ties it to proteins such as myosin and kinases which require energy from ATP hydrolysis to function properly. These interactions underline its importance in cellular physiology.
Associated diseases and disorders	Disruptions in NTPase activity have been linked to mitochondrial disorders and certain cancers. Abnormal levels of nucleoside triphosphates caused by malfunctioning NTPase can lead to mitochondrial dysfunction contributing to disorders like mitochondrial myopathy. In cancer altered nucleotide metabolism may support uncontrolled cell proliferation. NTPase could connect with proteins such as p53 or oncogene products accumulating interest as a potential therapeutic target.

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

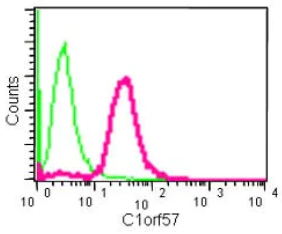
We do not recommend this combination. It is not covered by our product promise.

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.

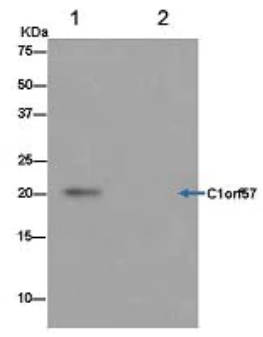
4 product images



Flow Cytometry (Intracellular) - Anti-Nucleoside triphosphate phosphohydrolase antibody [EPR14325] (ab182154)

Nucleoside triphosphate phosphohydrolase Flow Cytometry (Intracellular) staining using rabbit Anti-Nucleoside triphosphate phosphohydrolase antibody

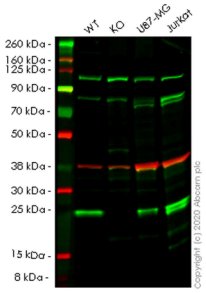
Intracellular flow cytometric analysis of Jurkat cells (paraformaldehyde-fixed, 2%) labeling Nucleoside triphosphate phosphohydrolase with ab182154 at 1/230 dilution (red) or a rabbit IgG (negative) (green), followed by Goat anti rabbit IgG (FITC) secondary at 1/150 dilution.



Immunoprecipitation - Anti-Nucleoside triphosphate phosphohydrolase antibody [EPR14325] (ab182154)

Western blot analysis of immunoprecipitation pellet from U87-MG cell lysate immunoprecipitated using ab182154 at 1/20 dilution.
Secondary: Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/1500 dilution.
All lanes:
Immunoprecipitation - Anti-Nucleoside triphosphate phosphohydrolase antibody [EPR14325] (ab182154)

Predicted band size: 21 kDa



Western blot - Anti-Nucleoside triphosphate phosphohydrolase antibody [EPR14325] (ab182154)

Nucleoside triphosphate phosphohydrolase Western blot staining using rabbit Anti-Nucleoside triphosphate phosphohydrolase antibody

Lanes 1-4: Merged signal (red and green). Green - ab182154 observed at 21 kDa. Red - loading control ab8245 observed at 36 kDa.
ab182154 Anti-Nucleoside triphosphate phosphohydrolase antibody [EPR14325] was shown to specifically react with Nucleoside triphosphate phosphohydrolase in wild-type HEK-293T cells. Loss of signal was observed when knockout cell line ab266397 (knockout cell lysate ab258083) was used. Wild-type and Nucleoside triphosphate phosphohydrolase knockout samples were subjected to SDS-PAGE. ab182154 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated overnight at 4°C at 1 in 1000 dilution and 1 in 20000 dilution respectively. 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 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-Nucleoside triphosphate phosphohydrolase antibody [EPR14325] (ab182154) at 1/1000 dilution

Lane 1:
Wild-type HEK-293T (Human epithelial cell line from embryonic kidney transformed with large T antigen) whole cell lysate at 20 µg

Lane 2:
NTPCR knockout HEK-293T (Human epithelial cell line from embryonic kidney transformed with large T antigen) whole cell lysate at 20 µg

Lane 2:
Western blot - Human NTPCR (Nucleoside triphosphate phosphohydrolase) knockout HEK-293T cell line (ab266397)

Lane 3:
U-87 MG (Human glioblastoma-astrocytoma epithelial cell line) whole cell lysate at 20 µg

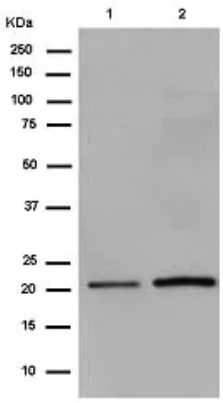
Lane 4:
Jurkat (Human T cell leukemia cell line from peripheral blood) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) at 1/10000 dilution

Predicted band size: 21 kDa

Observed band size: 21 kDa



Western blot - Anti-Nucleoside triphosphate phosphohydrolase antibody [EPR14325] (ab182154)

All lanes:
Western blot - Anti-Nucleoside triphosphate phosphohydrolase antibody [EPR14325] (ab182154) at 1/2000 dilution

Lane 1:
U87-MG cell lysate at 20 µg

Lane 2:
Jurkat cell lysate at 20 µg

Secondary

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

Predicted band size: 21 kDa

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