abcam

ab126770

Anti-MTAP antibody [EPR6893]

Anti-MTAP antibody [EPR6893] (ab126770) is a rabbit monoclonal antibody detecting MTAP in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- KO validated for confirmed specificity
- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb | KO Validated | 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	EPR6893
Purification technique	Affinity purification Protein A
Dissociation constant	2.6 x 10^{-11} M
Concentration	0.922 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/1000
Notes	**For unpurified use at 1:50 - 1:100.** Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	-

Expected

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

WB

Tested

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

Species	Rat
Dilution info	1/1000 - 1/10000

Notes	-

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

ICC/IF

Tested

Species	Human
Dilution info	1/50 - 1/250
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/90
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody. **For unpurified use at 1/100 - 1/500.**

Expected

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

Target data

See full target information MTAP

Function	Catalyzes the reversible phosphorylation of S-methyl-5'-thioadenosine (MTA) to adenine and 5-methylthioribose-1-phosphate. Involved in the breakdown of MTA, a major by-product of polyamine biosynthesis. Responsible for the first step in the methionine salvage pathway after MTA has been generated from S-adenosylmethionine. Has broad substrate specificity with 6-aminopurine nucleosides as preferred substrates.

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-MTAP antibody [EPR6893] (ab126770) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

What is the molecular weight of MTAP?
Anti-MTAP [EPR6893] (ab126770) specifically detects a band for MTAP (UniProt: Q13126) at a molecular weight of 31kDa.

Trusted by the scientific community
Anti-MTAP [EPR6893] (ab126770) was first used in a scientific publication in 2012 and has been cited over 10 times in peer-reviewed journals.

Specificity confirmed
The specificity of Anti-MTAP antibody [EPR6893] (ab126770) has been confirmed by Western blot testing in MTAP Knockout HeLa cell line, ab265272.

Other related products
We have a range of other formats of antibody clone [EPR6893] also available for your convenience: ab126770, Alexa Fluor® 488 - ab225148, PE - ab225149, Carrier free - ab232417

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.

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	MTAP also known as methylthioadenosine phosphorylase is an essential enzyme that breaks down 5'-methylthioadenosine (MTA) a byproduct of polyamine synthesis. MTAP has a molecular weight of about 31 kDa. The enzyme converts MTA into adenine and 5-methylthioribose-1-phosphate which re-enter the methionine and adenine salvage pathways. MTAP is widely expressed in most tissues but its activity is especially high in the liver and kidney. Alternative names for MTAP include 2G4 and MTAP-A.
Biological function summary	Methylthioadenosine phosphorylase plays a significant role in the salvage pathways for methionine and adenine critical for cellular growth and proliferation. MTAP operates as a part of a complex metabolic network involved in polyamine metabolism. In addition to its metabolic functions MTAP contributes to the regulation of the immune response and cell cycle. MTAP immunohistochemistry is often used to study its expression patterns in various tissues.
Pathways	Methylthioadenosine phosphorylase participates importantly in the polyamine biosynthesis and methionine salvage pathways. These pathways are integral for maintaining cellular homeostasis and nucleotide pools. MTAP works closely with proteins such as methionine adenosyltransferase (MAT) and adenosylmethionine decarboxylase (AMD). In concert they facilitate the regeneration of methionine highlighting MTAP's role in cellular adaptation to metabolic demands.
Associated diseases and disorders	Methylthioadenosine phosphorylase deficiency or deletion is linked to certain cancers such as gliomas and lymphomas. Loss of MTAP function is often associated with co-deletion of the tumor suppressor protein p16INK4a observed in various malignancies. This deletion can lead to an accumulation of MTA creating a toxic environment that promotes cancer cell proliferation. MTAP and its interaction with proteins like p16INK4a highlight its relevance as a potential target for therapeutic intervention in cancer treatment programs.

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.

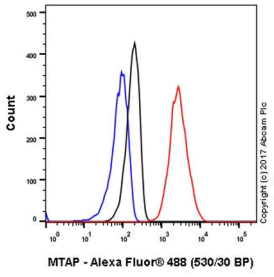
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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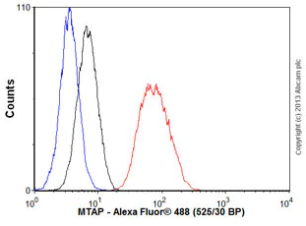
11 product images



Flow Cytometry (Intracellular) - Anti-MTAP antibody [EPR6893] (ab126770)

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

Intracellular Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling MTAP with purified ab126770 at 1/90 dilution (10 µg/ml) (red). Cells were fixed with 4% Paraformaldehyde. A Goat anti rabbit IgG (Alexa Fluor® 488) secondary antibody was used at 1/2000 dilution. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).

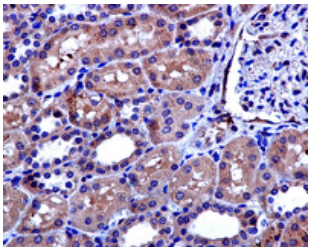


Flow Cytometry (Intracellular) - Anti-MTAP antibody [EPR6893] (ab126770)

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

Overlay histogram showing HeLa cells stained with unpurified ab126770 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab126770, 1/100 dilution) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-rabbit IgG (H&L) (ab150077) at

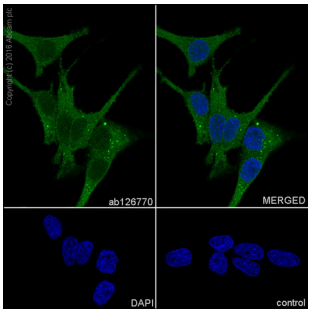
1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MTAP antibody [EPR6893] (ab126770)

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

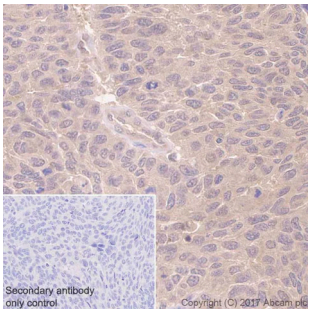
Formalin-fixed, paraffin-embedded human kidney tissue stained for MTAP with unpurified ab126770 (1/50 dilution) in immunohistochemical analysis.
Heat mediated antigen retrieval was performed before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-MTAP antibody [EPR6893] (ab126770)

MTAP Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MTAP antibody

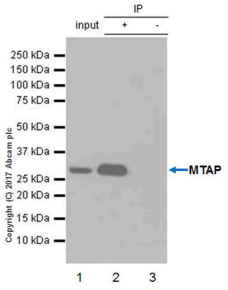
Immunocytochemistry/ Immunofluorescence analysis of HeLa (Human epithelial cell line from cervix adenocarcinoma) labeling MTAP with Purified ab126770 at 1/250 dilution. Cells were fixed with 4% PFA and permeabilized with 0.1% tritonX-100. ab150077 Goat anti rabbit IgG (Alexa Fluor® 488) at 1/1000 was used as the secondary antibody. Nuclei were counterstained with DAPI. PBS was used instead of the primary antibody as the negative control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MTAP antibody [EPR6893] (ab126770)

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

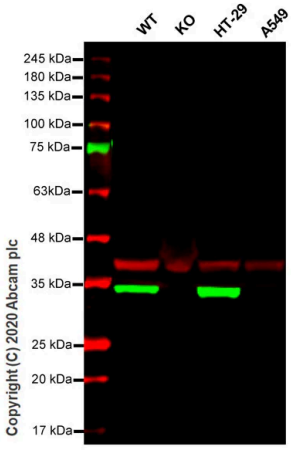
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human lung carcinoma tissue sections labeling MTAP with Purified ab126770 at 1:1000 dilution (0.89 µg/ml). Heat mediated antigen retrieval was performed using ab93684 (Tris/EDTA buffer, pH 9.0). Tissue was counterstained with Hematoxylin. ImmunoHistoProbe one step HRP Polymer (ready to use) secondary antibody was used at 1:0 dilution. PBS instead of the primary antibody was used as the negative control.



Immunoprecipitation - Anti-MTAP antibody [EPR6893] (ab126770)

ab126770 (purified) at 1:50 dilution (2µg) immunoprecipitating MTAP in HT-29 whole cell lysate.
Lane 1 (input): HT-29 (Human colorectal adenocarcinoma epithelial cell) whole cell lysate 10ug
Lane 2 (+): ab126770 & HT-29 whole cell lysate
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab126770 in HT-29 whole cell lysate
For western blotting, VeriBlot for IP Detection Reagent (HRP) (ab131366) was used for detection at 1:1000 dilution.
Blocking and diluting buffer: 5% NFDM/TBST.
All lanes:
Immunoprecipitation - Anti-MTAP antibody [EPR6893] (ab126770)

Predicted band size: 31 kDa



Western blot - Anti-MTAP antibody [EPR6893] (ab126770)

MTAP Western blot staining using rabbit Anti-MTAP antibody

anes 1- 4: Merged signal (red and green). Green - ab126770 observed at 32 kDa. Red - Anti-GAPDH antibody [6C5] - Loading Control (ab8245) observed at 37 kDa.
ab126770 Anti-MTAP antibody [EPR6893] was shown to specifically react with MTAP in wild-type HeLa cells. Loss of signal was observed when knockout cell line ab265272 (knockout cell lysate ab257194) was used. Wild-type and MTAP knockout samples were subjected to SDS-PAGE. ab126770 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 10000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-MTAP antibody [EPR6893] (ab126770) at 1/1000 dilution

Lane 1:
Wild-type HeLa cell lysate at 20 µg

Lane 2:
MTAP knockout HeLa cell lysate at 20 µg

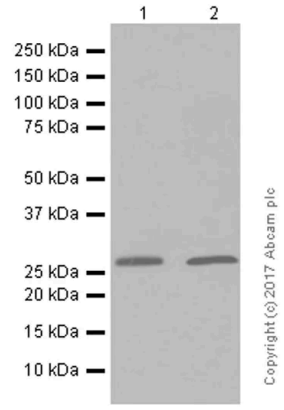
Lane 3:
HT-29 cell lysate at 20 µg

Lane 4:
A549 cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 31 kDa

Observed band size: 32 kDa



Western blot - Anti-MTAP antibody [EPR6893] (ab126770)

MTAP Western blot staining using rabbit Anti-MTAP antibody

Blocking and diluting buffer : 5% NFDM/TBST
All lanes:
Western blot - Anti-MTAP antibody [EPR6893] (ab126770) at 1/2000 dilution

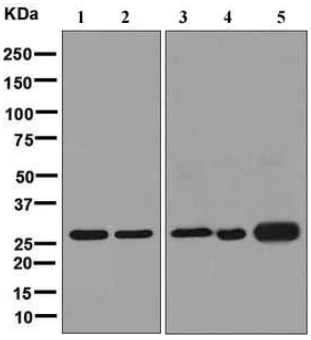
Lane 1:
HT-29 (Human colorectal adenocarcinoma epithelial cell) whole cell lysates at 20 µg

Lane 2:
HEK-293 (Human embryonic kidney epithelial cell) whole cell lysates at 20 µg

Secondary

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

Predicted band size: 31 kDa, 71 kDa



Western blot - Anti-MTAP antibody [EPR6893] (ab126770)

All lanes:
Western blot - Anti-MTAP antibody [EPR6893] (ab126770) at 1/1000 dilution

Lane 1:
293T cell lysates at 10 µg

Lane 2:
HT29 cell lysates at 10 µg

Lane 3:
C6 cell lysates at 10 µg

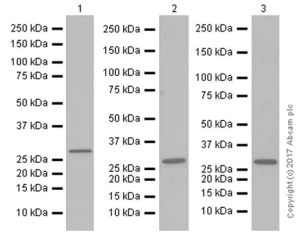
Lane 4:
RAW 264.7 cell lysates at 10 µg

Lane 5:
NIH 3T3 cell lysates at 10 µg

Secondary

All lanes:
Goat anti-Rabbit HRP at 1/2000 dilution

Predicted band size: 31 kDa



Western blot - Anti-MTAP antibody [EPR6893] (ab126770)

Blocking and diluting buffer : 5% NFDM/TBST
All lanes:
Western blot - Anti-MTAP antibody [EPR6893] (ab126770) at 1/10000 dilution

Lane 1:
NIH/3T3 (Mouse embryonic fibroblast) whole cell lysates at 15 µg

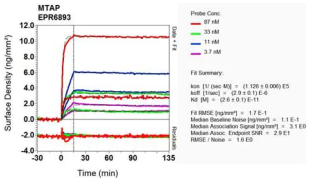
Lane 2:
C6 (Rat glial tumor glial cell) whole cell lysates at 15 µg

Lane 3:
Mouse kidney lysates at 15 µg

Secondary

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

Predicted band size: 31 kDa



OI-RD Scanning - Anti-MTAP antibody [EPR6893] (ab126770)

We have systematically measured KD (the equilibrium dissociation constant between the antibody and its antigen), of more than 840 recombinant antibodies to assess not only their individual KD values but also to see the average affinity of antibody. Based on the comparison with published

literature values for mouse monoclonal antibodies, Recombinant antibodies appear to be on average 1-2 order of magnitude higher affinity.

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