abcam

ab232417

Anti-MTAP antibody [EPR6893] - BSA and Azide free

Recombinant | RabMAb | KO Validated

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	EPR6893
Purification technique	Affinity purification Protein A
Concentration	1.025 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

WB

Tested

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

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

Notes

ab232417 is the carrier-free version of ab126770.

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	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

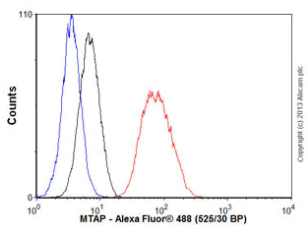
We do not recommend this combination. It is not covered by our product promise.

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.

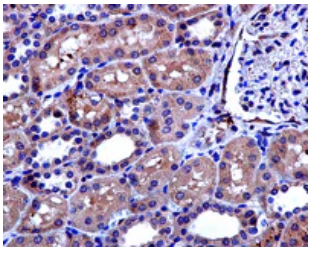
8 product images



Flow Cytometry (Intracellular) - Anti-MTAP antibody [EPR6893] - BSA and Azide free (ab232417)

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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab126770).

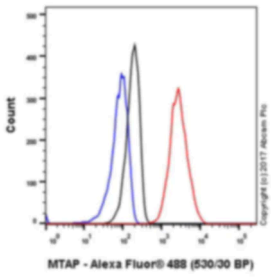


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MTAP antibody [EPR6893] - BSA and Azide free (ab232417)

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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab126770).

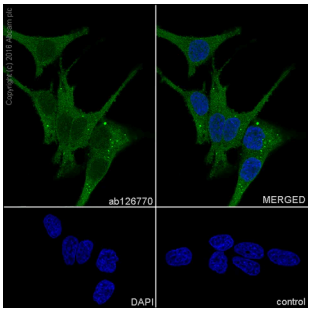
Heat mediated antigen retrieval was performed before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-MTAP antibody [EPR6893] - BSA and Azide free (ab232417)

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

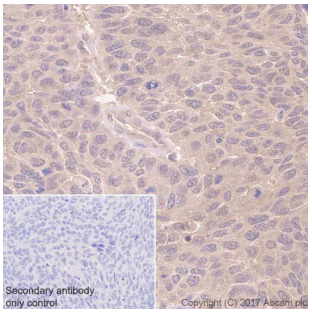
Intracellular Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling MTAP with purified ab126770 at 1/90 dilution (10 µg/ml) (red). Cells were fixed with 4% Paraformaldehyde. A Goat anti rabbit IgG (Alexa Fluor® 488) secondary antibody was used at 1/2000 dilution. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue). This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab126770).



Immunocytochemistry/ Immunofluorescence - Anti-MTAP antibody [EPR6893] - BSA and Azide free (ab232417)

MTAP Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MTAP antibody

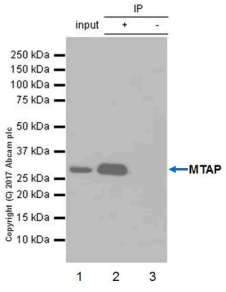
Immunocytochemistry/ Immunofluorescence analysis of HeLa (Human epithelial cell line from cervix adenocarcinoma) labeling MTAP with Purified ab126770 at 1/250 dilution. Cells were fixed with 4% PFA and permeabilized with 0.1% tritonX-100. ab150077 Goat anti rabbit IgG (Alexa Fluor® 488) at 1/1000 was used as the secondary antibody. Nuclei were counterstained with DAPI. PBS was used instead of the primary antibody as the negative control.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab126770).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MTAP antibody [EPR6893] - BSA and Azide free (ab232417)

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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab126770).

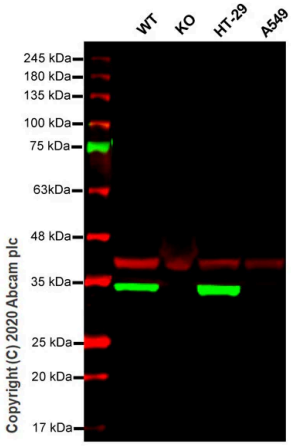


Immunoprecipitation - Anti-MTAP antibody [EPR6893] - BSA and Azide free (ab232417)

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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab126770).

All lanes:
Immunoprecipitation - Anti-MTAP antibody [EPR6893] (ab126770)

Predicted band size: 31 kDa



Western blot - Anti-MTAP antibody [EPR6893] - BSA and Azide free (ab232417)

MTAP Western blot staining using rabbit Anti-MTAP antibody

This data was developed using the same antibody clone in a different buffer formulation (ab126770).
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

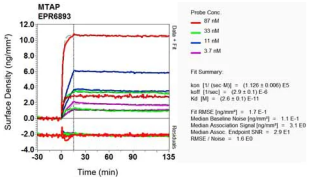
Lane 3:
HT-29 cell lysate at 20 µg

Lane 4:
A549 cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 31 kDa

Observed band size: 32 kDa



OI-RD Scanning - Anti-MTAP antibody [EPR6893] - BSA and Azide free (ab232417)

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'.