abcam

ab256356

Anti-MTAP antibody [EPR22570-76] - 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	EPR22570-76
Purification technique	Affinity purification Protein A
Concentration	0.96 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Mouse, Rat, Human
Dilution info	-

Notes	-

WB

Tested

Species	Human, Rat, Mouse
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

IHC-P

Tested

Species	Mouse, Rat, Human
Dilution info	-
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

ab256356 is the carrier-free version of ab254265.

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

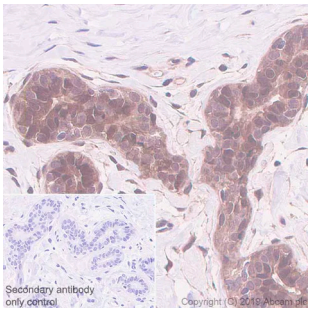
We do not recommend this combination. It is not covered by our product promise.

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



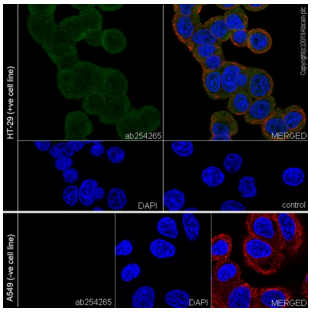
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MTAP antibody [EPR22570-76] - BSA and Azide free (ab256356)

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

Immunohistochemical analysis of paraffin-embedded human breast tissue labeling MTAP with ab254265 at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Positive staining in human breast (PMID:26751376, 18712977) is observed. Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

Heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab254265).



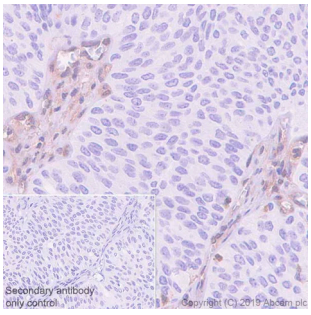
Immunocytochemistry/ Immunofluorescence - Anti-MTAP antibody [EPR22570-76] - BSA and Azide free (ab256356)

MTAP Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MTAP antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized A549 (human lung carcinoma cell line) and HT-29 (human colorectal adenocarcinoma cell line) cells labeling MTAP with ab254265 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic and nuclear staining in HT-29 cell line. The nuclear counter stain is DAPI (blue) Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (ab195889) at 1/200 dilution (red).
SEcondary antibody only control: Used PBS instead of primary antibody, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.

Negative control: A549 PMID: 8971171.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab254265).



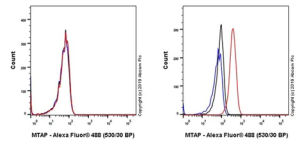
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MTAP antibody [EPR22570-76] - BSA and Azide free (ab256356)

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

Immunohistochemical analysis of paraffin-embedded human bladder cancer tissue labeling MTAP with ab254265 at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Positive staining in stroma cells and no staining in tumor cells of human bladder cancer (PMID:27270441) is observed. Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

Heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab254265).



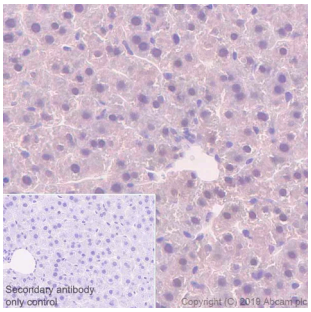
Flow Cytometry (Intracellular) - Anti-MTAP antibody [EPR22570-76] - BSA and Azide free (ab256356)

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

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol-permeabilized A549 (human lung carcinoma cell line) (Left) anf H-29 (human colorectal adenocarcinoma cell line) (Right) cells labeling MTAP with ab254265 at 1/400 dilution (red) compared with Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730) (black) and an unlabelled 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.

Negative control: A549 (PMID: 8971171).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab254265).



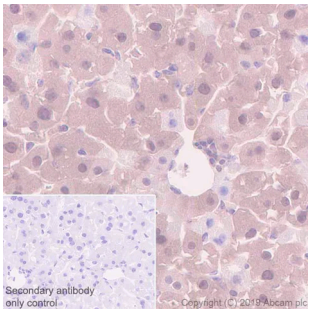
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MTAP antibody [EPR22570-76] - BSA and Azide free (ab256356)

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

Immunohistochemical analysis of paraffin-embedded rat liver tissue labeling MTAP with ab254265 at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Positive staining in rat liver (PMID:15492751) is observed. Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

Heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab254265).



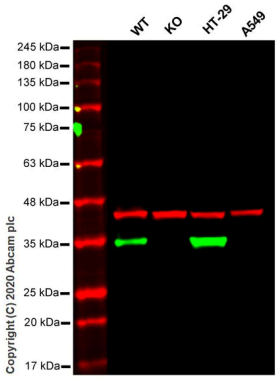
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MTAP antibody [EPR22570-76] - BSA and Azide free (ab256356)

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

Immunohistochemical analysis of paraffin-embedded mouse liver tissue labeling MTAP with ab254265 at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Positive staining in mouse liver (PMID:15492751) is observed. Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

Heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab254265).



Western blot - Anti-MTAP antibody [EPR22570-76] - BSA and Azide free (ab256356)

MTAP Western blot staining using rabbit Anti-MTAP antibody

This data was developed using the same antibody clone in a different buffer formulation (ab254265).
Lanes 1-4: Merged signal (red and green). Green - ab254265 observed at 32 kDa. Red - loading control, ab8245 observed at 37 kDa.

ab254265 Anti-MTAP antibody [EPR22570-76] 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.

ab254265 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 [EPR22570-76] (ab254265) 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 2:
Western blot - Human MTAP knockout HeLa cell line (ab265272)

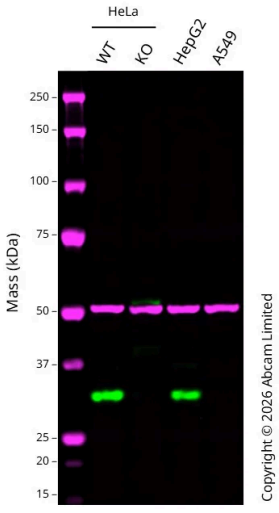
Lane 3:
HT-29 cell lysate at 20 µg

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 [EPR22570-76] - BSA and Azide free (ab256356)

MTAP Western blot staining using rabbit Anti-MTAP antibody

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab254265).

Western blot: Anti-MTAP antibody [EPR22570-76] ab254265 staining at 1/1000 dilution, shown in green; Mouse anti alpha Tubulin ab7291 loading control staining at 1/20000 dilution, shown in magenta. A band was observed at 31kDa in Wild-type HeLa cell lysates with no signal observed at this size in MTAP knockout HeLa cell line. To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3% Milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit 800CW and Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-MTAP antibody [EPR22570-76] (ab254265) at 1/1000 dilution

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

Lane 2:
MTAP knockout HeLa cell lysates at 20 µg

Lane 3:
HepG2 cell lysates at 20 µg

Lane 4:
A549 cell lysates at 20 µg

Secondary

All lanes:
Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 31 kDa

Observed band size: 31 kDa

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