abcam

ab280083

Anti-TRMT5 antibody [EPR24139-11] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR24139-11
Purification technique	Affinity purification Protein A
Concentration	1.011 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human, Mouse
Dilution info	-

Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human, Mouse
Dilution info	-
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse, Human
Dilution info	-
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information TRMT5

Function	Involved in mitochondrial tRNA methylation (PubMed:26189817). Specifically methylates the N1 position of guanosine-37 in various tRNAs. Methylation is not dependent on the nature of the nucleoside 5' of the target nucleoside. This is the first step in the biosynthesis of wybutosine (yW), a modified base adjacent to the anticodon of tRNAs and required for accurate decoding.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

ab280083 is the carrier-free version of ab259986.

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	TRMT5 also known as tRNA methyltransferase 5 is an enzyme responsible for catalyzing the methylation of N1 at position G37 of mitochondrial and cytoplasmic tRNA using S-adenosylmethionine as a methyl donor. This process is essential in maintaining proper tRNA structure and function. TRMT5 has a molecular mass of approximately 54 kDa and is expressed in a wide range of human tissues with more concentration in the liver and kidney.
Biological function summary	The role of TRMT5 is to facilitate correct tRNA folding and stability impacting translation accuracy. It does so by targeting the guanine base adjacent to the anticodon in tRNA molecules enhancing the fidelity of protein synthesis. While TRMT5 functions predominantly as a solitary enzyme its activity impacts other cellular processes by ensuring the efficiency of protein translation machinery.
Pathways	TRMT5 influences the tRNA modification pathway which is essential for correct and efficient protein translation. This enzyme collaborates with other proteins like TRMT6 that engage in further tRNA modifications within the process. Together they enhance the translation mechanisms that ripple into broader pathways such as the mitochondrial protein translation pathway necessary for cellular energy metabolism.
Associated diseases and disorders	Researchers have implicated TRMT5 in certain mitochondrial dysfunctions. Dysregulation or mutations in TRMT5 can lead to altered tRNA stability contributing to systemic disorders like mitochondrial encephalomyopathy. Moreover TRMT5 is associated with neurological disorders that might parallel connections with proteins involved in mitochondrial translation fidelity such as GTPBP3 which safeguards against translational error.

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

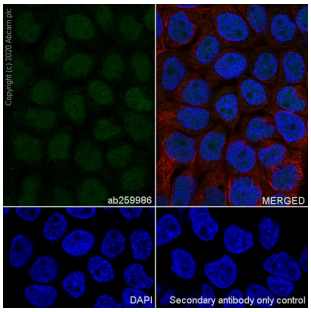
We do not recommend this combination. It is not covered by our product promise.

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.

5 product images

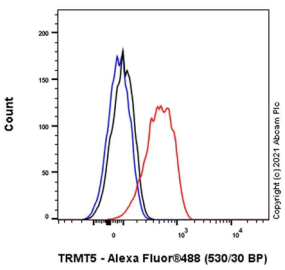


Immunocytochemistry/ Immunofluorescence - Anti-TRMT5 antibody [EPR24139-11] - BSA and Azide free (ab280083)

TRMT5 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-TRMT5 antibody

This data was developed using ab259986, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized A431 cells labelling TRMT5 with ab259986 at 1/50 dilution, followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing nuclear and weak cytoplasmic staining in A431 cell line is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The Nuclear counterstain was DAPI (Blue).

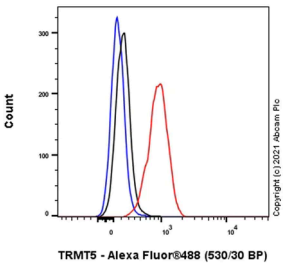
Secondary antibody only control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution.



Flow Cytometry (Intracellular) - Anti-TRMT5 antibody [EPR24139-11] - BSA and Azide free (ab280083)

TRMT5 Flow Cytometry (Intracellular) staining using rabbit Anti-TRMT5 antibody

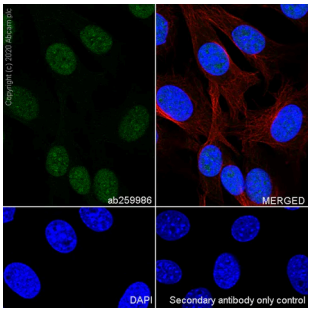
This data was developed using ab259986, the same antibody clone in a different buffer formulation.Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized A431 (Human epidermoid carcinoma epithelial cell) cells labelling TRMT5 with ab259986 at 1/50 dilution (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.



Flow Cytometry (Intracellular) - Anti-TRMT5 antibody [EPR24139-11] - BSA and Azide free (ab280083)

TRMT5 Flow Cytometry (Intracellular) staining using rabbit Anti-TRMT5 antibody

This data was developed using ab259986, the same antibody clone in a different buffer formulation.Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized NIH/3T3 (Mouse embryonic fibroblast) cells labelling TRMT5 with ab259986 at 1/50 dilution (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.

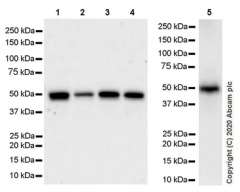


Immunocytochemistry/ Immunofluorescence - Anti-TRMT5 antibody [EPR24139-11] - BSA and Azide free (ab280083)

TRMT5 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-TRMT5 antibody

This data was developed using ab259986, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized NIH/3T3 cells labelling TRMT5 with ab259986 at 1/50 dilution, followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing nuclear and weak cytoplasmic staining in NIH/3T3 cell line is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution.



Western blot - Anti-TRMT5 antibody [EPR24139-11] - BSA and Azide free (ab280083)

TRMT5 Western blot staining using rabbit Anti-TRMT5 antibody

This data was developed using ab259986, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST

Lane 5 of the blot was developed using a higher sensitivity ECL substrate.

Exposure time: Lane 1-4: 3 minutes

Lane 5: 103 seconds
All lanes:
Western blot - Anti-TRMT5 antibody [EPR24139-11] (ab259986) at 1/1000 dilution

Lane 1:
Jurkat (human T cell leukemia T lymphocyte), whole cell lysate at 20 µg

Lane 2:
A431 (human epidermoid carcinoma epithelial cell), whole cell lysate at 20 µg

Lane 3:
MCF7 (human breast adenocarcinoma epithelial cell), whole cell lysate at 20 µg

Lane 4:
U-2 OS (human bone osteosarcoma epithelial cell), whole cell lysate at 20 µg

Lane 5:
NIH/3T3 (mouse embryonic fibroblast), whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 58 kDa

Observed band size: 50 kDa

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