abcam

ab177484

Anti-MAT2A + MAT1A antibody [EPR10496]

Recombinant | RabMAb | 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	EPR10496
Purification technique	Affinity purification Protein A
Concentration	0.252 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Expected

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

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

WB

Tested

Species	Recombinant full length protein - Human
Dilution info	1/1000 - 1/5000
Notes	-

Species	Mouse
Dilution info	1/1000 - 1/5000
Notes	-

Species	Rat
Dilution info	1/1000 - 1/5000
Notes	-

Species	Human
Dilution info	1/1000 - 1/5000
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/30

Notes	-

Expected

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

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Target data

See full target information MAT1A

Function	Catalyzes the formation of S-adenosylmethionine from methionine and ATP. The reaction comprises two steps that are both catalyzed by the same enzyme: formation of S-adenosylmethionine (AdoMet) and triphosphate, and subsequent hydrolysis of the triphosphate.

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	MAT2A (Methionine Adenosyltransferase 2A) and MAT1A (Methionine Adenosyltransferase 1A) are enzymes that catalyze the formation of S-adenosylmethionine (SAM) from methionine and ATP. MAT2A also known as hepatic MAT has a mass of approximately 52 kDa while MAT1A also sometimes referred to as extrahepatic MAT typically weighs around 48 kDa. Both enzymes differ in their tissue expression: MAT1A is predominantly found in the liver whereas MAT2A expresses across various tissues such as the brain and intestines.
Biological function summary	MAT2A and MAT1A are key in the methionine cycle impacting gene regulation through methylation reactions. They facilitate the synthesis of SAM a universal methyl donor essential for transmethylation processes within cells. Specifically MAT1A forms a complex with glycine N-methyltransferase to regulate homocysteine and methylation homeostasis. Both enzymes perform a role in controlling the abundance of SAM which influences various cellular processes including nucleic acid protein and lipid metabolism.
Pathways	MAT2A and MAT1A participate actively in methionine and SAM metabolism. They integrate within the one-carbon metabolism pathway which is critical for methylation processes affecting gene expression and epigenetic regulation. MAT2A interacts with proteins like MAT2B which modulates the activity of MAT2A impacting the balance between SAM and S-adenosylhomocysteine. This pathway interaction is important for maintaining methylation balance and cellular proliferation.
Associated diseases and disorders	MAT2A and MAT1A relate to liver diseases and cancer reflecting their roles in SAM metabolism. Abnormal function or expression of these enzymes affects SAM levels linking to liver cirrhosis and hepatocellular carcinoma. MAT1A mutations can impair methionine metabolism exacerbating liver conditions. Similarly altered MAT2A expression associates with certain cancers where it modulates cellular methylation states and growth. Proteins like SAM might get affected creating an imbalance that contributes to the pathology of liver disease and oncogenesis.

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.

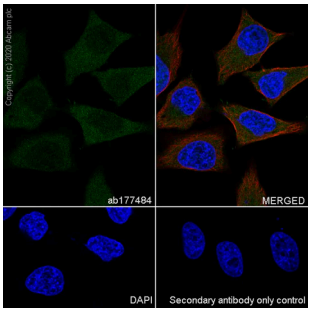
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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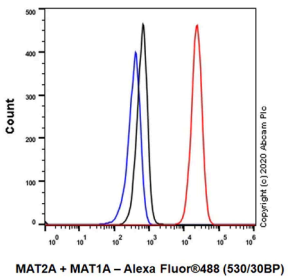
5 product images



Immunocytochemistry/ Immunofluorescence - Anti-MAT2A + MAT1A antibody [EPR10496] (ab177484)

MAT2A + MAT1A Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MAT2A + MAT1A antibody

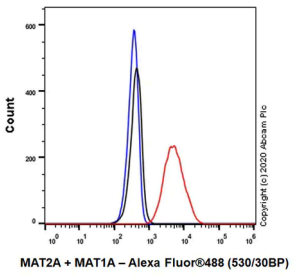
Immunocytochemistry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling MAT2A+MAT1A with Purified ab177484 at 1:100 dilution (2.52 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Flow Cytometry (Intracellular) - Anti-MAT2A + MAT1A antibody [EPR10496] (ab177484)

MAT2A + MAT1A Flow Cytometry (Intracellular) staining using rabbit Anti-MAT2A + MAT1A antibody

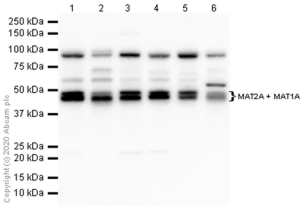
Intracellular Flow Cytometry analysis of Ramos (Human Burkitt's lymphoma B lymphocyte) cells labeling MAT2A+MAT1A with Purified ab177484 at 1/30 dilution (10 µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Flow Cytometry (Intracellular) - Anti-MAT2A + MAT1A antibody [EPR10496] (ab177484)

MAT2A + MAT1A Flow Cytometry (Intracellular) staining using rabbit Anti-MAT2A + MAT1A antibody

Intracellular Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling MAT2A+MAT1A with Purified ab177484 at 1/30 dilution (10 µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Western blot - Anti-MAT2A + MAT1A antibody [EPR10496] (ab177484)

MAT1A: 44kDa ; MAT2A: 46kDa
Blocking Buffer and concentration: 5% NFDM/TBST

All lanes:
Western blot - Anti-MAT2A + MAT1A antibody [EPR10496] (ab177484) at 1/1000 dilution

Lane 1:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
HepG2 (Human hepatocellular carcinoma epithelial cell) whole cell lysate at 20 µg

Lane 3:
Ramos (Human Burkitt's lymphoma B lymphocyte) whole cell lysate at 20 µg

Lane 4:
293T (Human embryonic kidney epithelial cell) whole cell lysate at 20 µg

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

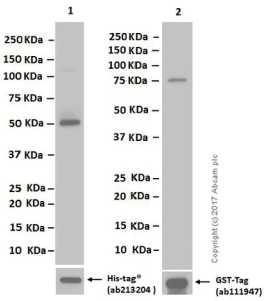
Lane 6:
C6 (Rat glial tumor glial cell) whole cell lysate at 20 µg

Secondary

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

Predicted band size: 44 kDa

Observed band size: 44 kDa, 46 kDa



Western blot - Anti-MAT2A + MAT1A antibody [EPR10496] (ab177484)

MAT1A: Full-length recombinant protein (aa1-395) with His-Tag was made in-house
MAT2A: Full-length recombinant protein (aa1-364) with GST-Tag was from Abnova company
Blocking and diluting buffer and concentrations: 5%NFDM/TBST

Exposure time: Lane 1: 1 second
Lane 2: 3 seconds

All lanes:
Western blot - Anti-MAT2A + MAT1A antibody [EPR10496] (ab177484) at 1/10000 dilution

Lane 1:
Full-length Human MAT1A recombinant protein with His-Tag at 0.015 µg

Lane 2:
Full-length Human MAT2A recombinant protein with GST-Tag at 0.015 µg

Secondary

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

Predicted band size: 44 kDa

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