abcam

ab307162

Anti-Monoacylglycerol Lipase/MGL antibody [EPR26936-12]

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	EPR26936-12
Purification technique	Affinity purification Protein A
Concentration	0.488 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/50
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/5000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Mouse
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information MGLL

Function	Converts monoacylglycerides to free fatty acids and glycerol (PubMed:19029917, PubMed:20079333, PubMed:21049984, PubMed:22969151, PubMed:24368842). Hydrolyzes the endocannabinoid 2-arachidonoylglycerol, and thereby contributes

to the regulation of endocannabinoid signaling, nociperception and perception of pain (PubMed:19029917, PubMed:20079333, PubMed:21049984, PubMed:22969151, PubMed:24368842). Regulates the levels of fatty acids that serve as signaling molecules and promote cancer cell migration, invasion and tumor growth (PubMed:20079333).

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	Monoacylglycerol lipase (MGL) also known as MAGL or lipase 63 is an enzyme with a mass of approximately 33 kDa. MGL primarily functions in lipid metabolism by hydrolyzing 2-monoacylglycerol (2-MAG) into free fatty acids and glycerol. This enzyme is expressed in many tissues with high expression in the brain liver and adipose tissue. Its activity plays a significant role in the breakdown of

	monoacylglycerol an important intermediate in the endocannabinoid signaling system.
Biological function summary	MGL contributes to the regulation of energy homeostasis by controlling the levels of 2-monoacylglycerol. It catalyzes the final step in the degradation of the endocannabinoid 2-arachidonoylglycerol (2-AG) which is important for modulating inflammation pain and mood. MGL is not known to be part of a larger protein complex. In the brain its action helps terminate endocannabinoid signaling therefore influencing neurotransmission and synaptic plasticity.
Pathways	MGL plays a critical role in the endocannabinoid and glycerolipid metabolism pathways. In the endocannabinoid system it interacts with the cannabinoid receptors CB1 and CB2 by regulating 2-AG levels. The protein's role in glycerolipid metabolism involves its interaction with long-chain acyl-CoA synthetase and fatty acid oxidation pathways which are essential for maintaining lipid balance and cellular energy.
Associated diseases and disorders	MGL has been linked to neurodegenerative diseases and cancer. In neurodegenerative diseases like Alzheimer’s dysregulation of MGL activity may lead to altered endocannabinoid signaling impacting neuronal health. In cancer increased MGL activity can promote tumor progression by providing cancer cells with fatty acids for growth and survival. MGL's interaction with proteins such as fatty acid synthase highlights its importance in cancer metabolism.

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.

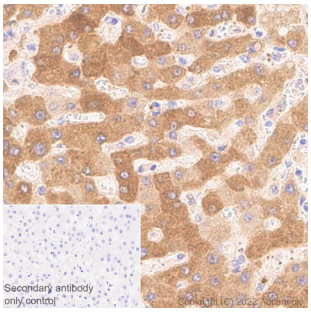
Full details and terms and conditions can be found here:
Terms & Conditions.

11 product images



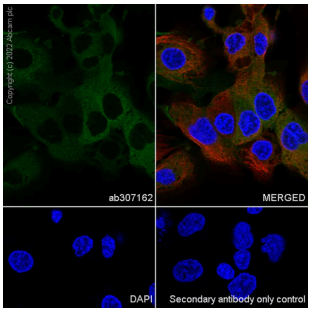
Immunohistochemistry - Anti-Monoacylglycerol Lipase/MGL antibody [EPR26936-12] (ab307162)

Immunohistochemical analysis of paraffin-embedded human adipose tissue tissue labeling Monoacylglycerol Lipase/MGL with ab307162 at 1/5000 (0.098 ug/ml) followed by ready to use LeicaDS9800 (Bond® Polymer Refine Detection). Positive staining on human adipose tissue. The section was incubated with ab307162 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is ready to use LeicaDS9800 (Bond® Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



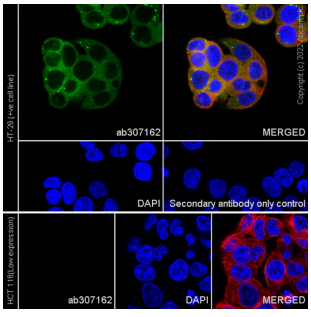
Immunohistochemistry - Anti-Monoacylglycerol Lipase/MGL antibody [EPR26936-12] (ab307162)

Immunohistochemical analysis of paraffin-embedded human liver tissue labeling Monoacylglycerol Lipase/MGL with ab307162 at 1/5000 (0.098 ug/ml) followed by ready to use LeicaDS9800 (Bond® Polymer Refine Detection). Positive staining on human liver (PMID: 30034939). The section was incubated with ab307162 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is ready to use LeicaDS9800 (Bond® Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunocytochemistry/ Immunofluorescence - Anti-Monoacylglycerol Lipase/MGL antibody [EPR26936-12] (ab307162)

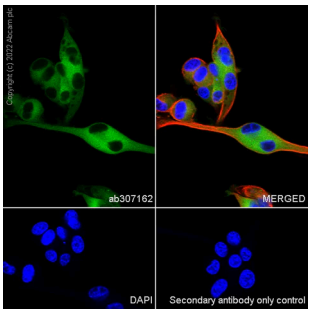
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized DU 145 (human prostate carcinoma epithelial cell) cells labeling Monoacylglycerol Lipase/MGL with ab307162 at 1/500 dilution (0.976 ug/ml), followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (2 ug/ml) (Green). Confocal image showing cytoplasmic staining in DU 145 cell line. The image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (2.5 ug/ml) (Red). The nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 dilution (2 ug/ml).



Immunocytochemistry/ Immunofluorescence - Anti-Monoacylglycerol Lipase/MGL antibody [EPR26936-12] (ab307162)

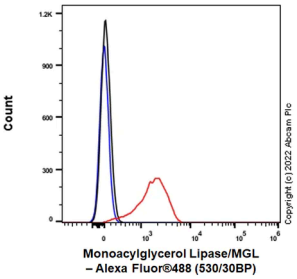
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HT-29 (human colorectal adenocarcinoma epithelial cell) cells labeling Monoacylglycerol Lipase/MGL with ab307162 at 1/500 dilution (0.976 ug/ml) followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (2 ug/ml) (Green). Confocal image showing cytoplasmic staining in HT-29 cells line. Low expression: HCT 116 (PMID: 22349814). The image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (2.5 ug/ml) (Red). The nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 dilution (2 ug/ml).



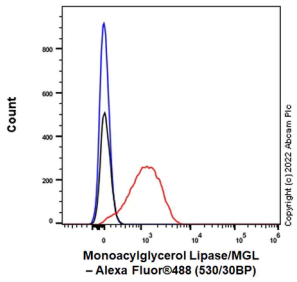
Immunocytochemistry/ Immunofluorescence - Anti-Monoacylglycerol Lipase/MGL antibody [EPR26936-12] (ab307162)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized U-87 MG (human glioblastoma-astrocytoma epithelial cell) cells labeling Monoacylglycerol Lipase/MGL with ab307162 at 1/500 dilution (0.976 ug/ml), followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (2 ug/ml) (Green). Confocal image showing cytoplasmic staining in U-87 MG line. The image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (2.5 ug/ml) (Red). The nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 dilution (2 ug/ml).



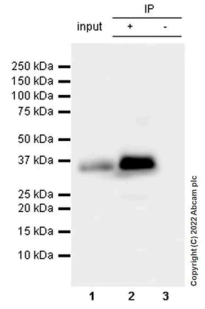
Flow Cytometry (Intracellular) - Anti-Monoacylglycerol Lipase/MGL antibody [EPR26936-12] (ab307162)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized DU145 (human prostate carcinoma epithelial cell) cells labeling Monoacylglycerol Lipase/MGL with ab307162 at 1/50 dilution (1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody.



Flow Cytometry (Intracellular) - Anti-Monoacylglycerol Lipase/MGL antibody [EPR26936-12] (ab307162)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized U-87 MG (human glioblastoma-astrocytoma epithelial cell) cells labeling Monoacylglycerol Lipase/MGL with ab307162 at 1/500 dilution (0.1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody.



Immunoprecipitation - Anti-Monoacylglycerol Lipase/MGL antibody [EPR26936-12] (ab307162)

Monoacylglycerol Lipase/MGL was immunoprecipitated from 0.35 mg DU145 (human prostate carcinoma epithelial cell) whole cell lysate 5 ug with ab307162 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab307162 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution. Lane 1: DU145 whole cell lysate 5 ug Lane 2: ab307162 IP in DU145 whole cell lysate Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab307162 in DU145 whole cell lysate Blocking and dilution buffer and concentration: 5% NFDM/TBST. Exposure time: 32 seconds
All lanes:
Immunoprecipitation - Anti-Monoacylglycerol Lipase/MGL antibody [EPR26936-12] (ab307162) at 1/1000 dilution

Lane 1:

DU145 whole cell lysate at 5 µg

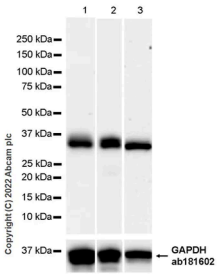
Lane 2:
DU145 whole cell lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Observed band size: 35 kDa

Exposure time: 32s



Western blot - Anti-Monoacylglycerol Lipase/MGL antibody [EPR26936-12] (ab307162)

Buffer/Dilution Concentration: 5% NFDM/TBST Exposure Time: Lane 1: 10 seconds, Lane 2: 26 seconds, and Lane 3: 180 seconds
All lanes:
Western blot - Anti-Monoacylglycerol Lipase/MGL antibody [EPR26936-12] (ab307162) at 1/1000 dilution

Lane 1:
U-87 MG whole cell lysate at 20 µg

Lane 2:
PC-3 whole cell lysate at 20 µg

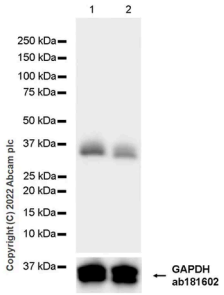
Lane 3:
LNCaP whole cell lysate at 20 µg

Secondary

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

Observed band size: 35 kDa

Exposure time: 10s



Western blot - Anti-Monoacylglycerol Lipase/MGL antibody [EPR26936-12] (ab307162)

Buffer/Dilution Concentration: 5% NFDM/TBST Exposure time: 3 seconds The expression of MGL is down-regulated in response to JZL treatment (PMID: 21802006).
All lanes:
Western blot - Anti-Monoacylglycerol Lipase/MGL antibody [EPR26936-12] (ab307162) at 1/1000 dilution

Lane 1:
Untreated DU145 whole cell lysate at 20 µg

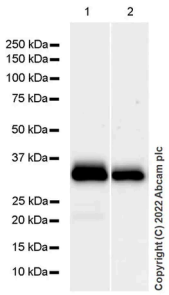
Lane 2:
DU145 treated with 1 uM JZL184 for 4 hours whole cell lysate at 20 µg

Secondary

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

Observed band size: 35 kDa

Exposure time: 3s



Western blot - Anti-Monoacylglycerol Lipase/MGL antibody [EPR26936-12] (ab307162)

Blocking/Dilution Buffer: 5% NFDM/TBST Exposure time: Lane 1: 26 seconds and Lane 2: 180 seconds
All lanes:
Western blot - Anti-Monoacylglycerol Lipase/MGL antibody [EPR26936-12] (ab307162) at 1/1000 dilution

Lane 1:
Human fat tissue lysate at 20 µg

Lane 2:
Human breast tissue lysate at 20 µg

Secondary

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

Observed band size: 35 kDa

Exposure time: 26s

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