abcam

ab131059

Anti-MGST1 antibody [EPR7934]

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	EPR7934
Purification technique	Affinity purification Protein A
Specificity	ab131059 was not effective in WB in the tested cell lines; therefore, ab129175 is recommended as an alternative.
Dissociation constant	6.8 x 10^{-10} M
Concentration	0.493 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse

Dilution info	1/1000 - 1/10000
Notes	-

Species	Rat
Dilution info	1/1000 - 1/10000
Notes	-

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50 - 1/100
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse, Rat

Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/1000
Notes	**For unpurified use at 1/50 - 1/100.** Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information MGST1

Function	Conjugation of reduced glutathione to a wide number of exogenous and endogenous hydrophobic electrophiles.

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	MGST1 also known as Microsomal Glutathione S-Transferase 1 is an enzyme involved in the detoxification pathway. This enzyme has a mass of approximately 17 kDa. MGST1 is expressed in various tissues with strong presence in liver and other tissues rich in endoplasmic reticulum. It also participates in protection against oxidative stress due to its role in conjugating reduced glutathione to a wide variety of hydrophobic electrophiles.
Biological function summary	The enzyme acts to catalyze the conjugation of glutathione to electrophilic compounds which helps in neutralizing harmful substances facilitating their excretion. MGST1 forms a homotrimer complex that enhances its activity and stability. This action is vital in maintaining cellular homeostasis and defending against injury from toxic compounds and oxidative stress.
Pathways	MGST1 significantly contributes to the glutathione metabolism and arachidonic acid pathways. In the glutathione metabolism it interacts with glutathione S-transferase enzymes facilitating detoxification processes in the cell. In the arachidonic acid pathway MGST1 cooperates with other enzymes to modulate the synthesis of key molecules involved in inflammation and cell signaling.
Associated diseases and disorders	MGST1 is implicated in the development of liver cancer and cardiovascular diseases. Its overexpression or dysregulation can lead to abnormal detoxification processes and oxidative damage contributing to carcinogenesis. In cardiovascular diseases the enzyme's role in oxidative stress links it to endothelial dysfunction. MGST1's interaction with proteins like CYP450 and GSTs highlights its significance in these disease pathways.

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

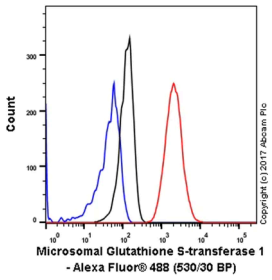
We do not recommend this combination. It is not covered by our product promise.

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.

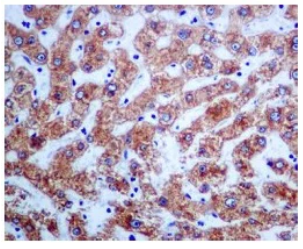
7 product images



Flow Cytometry (Intracellular) - Anti-MGST1 antibody [EPR7934] (ab131059)

MGST1 Flow Cytometry (Intracellular) staining using rabbit Anti-MGST1 antibody

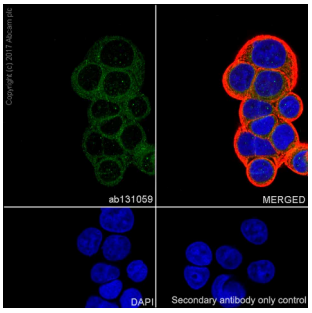
Intracellular Flow Cytometry analysis of MCF7 (Human breast adenocarcinoma epithelial cell) cells labeling MGST1 with purified ab131059 at 1/40 dilution (red). Cells were fixed with 4% Paraformaldehyde. A Goat anti rabbit IgG (Alexa Fluor® 488) secondary antibody was used at 1/2000 dilution. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MGST1 antibody [EPR7934] (ab131059)

MGST1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MGST1 antibody

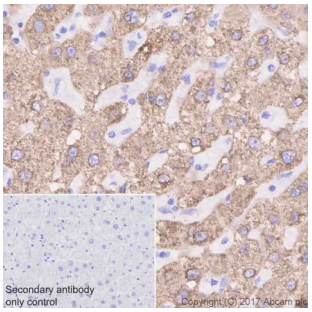
Immunohistochemical analysis of paraffin embedded Human liver tissue labelling MGST1 with ab131059 antibody at 1/50 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-MGST1 antibody [EPR7934] (ab131059)

MGST1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MGST1 antibody

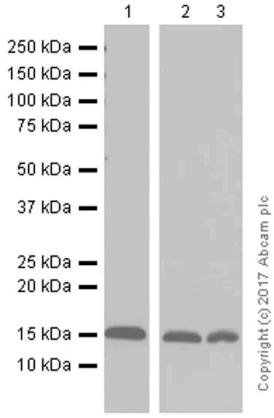
Immunocytochemistry/ Immunofluorescence analysis of MCF7 (Human breast adenocarcinoma epithelial cell) cells labeling Microsomal Glutathione S-transferase 2 with Purified ab131059 at 1:100 dilution. Cells were fixed in 100% Methanol and permeabilized with None. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor ® 594) 1:200 (2.5 µg/ml). ab150077 Goat anti rabbit IgG(Alexa Fluor ® 488) was used as the secondary antibody at 1:1000 dilution. DAPI nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MGST1 antibody [EPR7934] (ab131059)

MGST1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MGST1 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human liver tissue sections labeling MGST1 with Purified ab131059 at 1:1000 dilution. 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.



Western blot - Anti-MGST1 antibody [EPR7934] (ab131059)

MGST1 Western blot staining using rabbit Anti-MGST1 antibody

Blocking and dilutuing buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-MGST1 antibody [EPR7934] (ab131059) at 1/5000 dilution

Lane 1:
Human fetal liver lysates at 20 µg

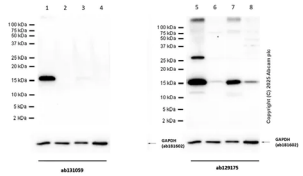
Lane 2:
Mouse liver lysates at 20 µg

Lane 3:
Rat liver lysates at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Predicted band size: 18 kDa



Western blot - Anti-MGST1 antibody [EPR7934] (ab131059)

MGST1 Western blot staining using rabbit Anti-MGST1 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/1000000 dilution.

ab131059 was not effective in the tested cell lines; therefore, ab129175 is recommended as an alternative.
Lanes 1 - 4:
Western blot - Anti-MGST1 antibody [EPR7934] (ab131059) at 1/1000 dilution

Lanes 5 - 8:
Western blot - Anti-MGST1 antibody [EPR7935] (ab129175) at 1/1000 dilution

Lanes 1 and 5:
Mouse liver tissue lysate at 20 µg

Lanes 2 and 6:
Mouse kidney tissue lysate at 20 µg

Lanes 3 and 7:
HepG2 (human hepatocellular carcinoma epithelial cell) whole cell lysate at 20 µg

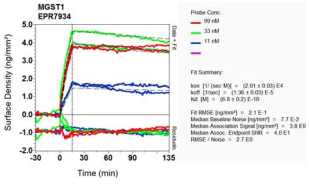
Lanes 4 and 8:
K562 (human chronic myelogenous leukemia lymphoblast) whole cell lysate at 20 µg

Secondary

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

Observed band size: 18 kDa

Exposure time: 10s



OI-RD Scanning - Anti-MGST1 antibody [EPR7934] (ab131059)

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'.