abcam

ab248817

Anti-GLO1 antibody [EPR8878] - 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	EPR8878
Purification technique	Affinity purification
Concentration	1.066 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information GLO1

Function	Catalyzes the conversion of hemimercaptal, formed from methylglyoxal and glutathione, to S-lactoylglutathione (PubMed:20454679, PubMed:23122816, PubMed:9705294). Involved in the regulation of TNF-induced transcriptional activity of NF-kappa-B (PubMed:19199007). Required for normal osteoclastogenesis (By similarity).

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

ab248817 is the carrier-free version of ab137098.

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	The GLO1 protein also known as glyoxalase I plays an important role in cellular metabolism by detoxifying methylglyoxal a byproduct of glycolysis. It catalyzes the conversion of methylglyoxal into S-D-lactoylglutathione using glutathione as a cofactor. This enzyme has a mass of approximately 29 kDa and is expressed in various tissues throughout the body with higher levels found in the liver and kidney. Glyoxalase I (GLO1) expression is increased in response to stress conditions indicating its role in cellular defense mechanisms.
Biological function summary	Glyoxalase I is important for maintaining cellular homeostasis by mitigating harmful compounds. It forms part of the glyoxalase system which includes glyoxalase II functioning downstream of GLO1. This system prevents the accumulation of advanced glycation end-products (AGEs) which are implicated in cellular aging and dysfunction. By reducing the levels of methylglyoxal GLO1 supports normal physiological processes and protects cellular integrity.
Pathways	Glyoxalase I is an important component of the glyoxalase pathway. This pathway integrates into the detoxification network working alongside other important enzymes such as superoxide dismutase and catalase. These relationships highlight its function in cellular oxidative stress responses. GLO1's activity impacts pathways related to glycolysis and overall energy metabolism due to its role in reducing metabolic byproducts.
Associated diseases and disorders	GLO1 has significant implications in diabetic complications and cancer. In diabetes increased methylglyoxal can worsen tissue damage making GLO1's role protective against advanced glycation end-product formation. In cancer GLO1 is overexpressed contributing to cellular proliferation and survival. Its interaction with proteins such as Hsp70 in cancer illustrates the adaptive mechanisms that tumor cells use for progression and chemoresistance.

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.

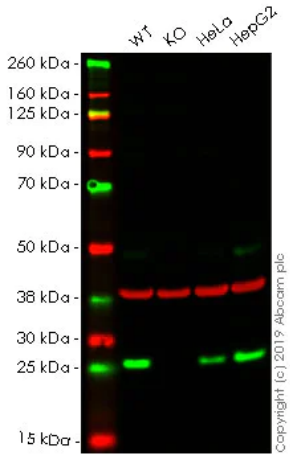
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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1 product image



Western blot - Anti-GLO1 antibody [EPR8878] - BSA and Azide free (ab248817)

GLO1 Western blot staining using rabbit Anti-GLO1 antibody

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab137098).
Lanes 1 - 4: Merged signal (red and green). Green - ab137098 observed at 21 kDa. Red - loading control, ab8245, observed at 37 kDa.

ab137098 was shown to specifically react with in wild-type HAP1 cells as signal was lost in GLO1 knockout cells. Wild-type and GLO1 knockout samples were subjected to SDS-PAGE. The membrane was blocked with 3% Milk. ab137098 and ab8245 (Mouse anti-GAPDH loading control) were incubated overnight at 4°C at 1/1000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed ab216773 and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed ab216776 secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-GLO1 antibody [EPR8878] (ab137098) at 1/1000 dilution

Lane 1:
Wild-type HAP1 whole cell lysate at 20 µg

Lane 2:
GLO1 knockout HAP1 whole cell lysate at 20 µg

Lane 3:
HeLa whole cell lysate at 20 µg

Lane 4:
HepG2 whole cell lysate at 20 µg

Predicted band size: 21 kDa

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