abcam

ab112998

Anti-GCDH/GCD antibody [3E9BA3BF5]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.5 Preservative: 0.02% Sodium azide Constituents: 99.98% HEPES buffered saline
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	3E9BA3BF5
Purification technique	Proprietary technique
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	ab112998 was produced in vitro using hybridomas grown in serum-free medium, and then purified by biochemical fractionation. Monoclonal purity was near homogeneity as judged by SDS-PAGE (>95%).

Reactivity data

Flow Cyt

Tested

Species	Human

Dilution info	1 µg/mL
Notes	0.1% Triton X-100 permeabilization recommended. ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

ICC/IF

Tested

Species	Human
Dilution info	1 µg/mL
Notes	-

Target data

See full target information GCDH

Function	Catalyzes the oxidative decarboxylation of glutaryl-CoA to crotonyl-CoA and CO(2) in the degradative pathway of L-lysine, L-hydroxylysine, and L-tryptophan metabolism. It uses electron transfer flavoprotein as its electron acceptor. Isoform Short is inactive.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C

Notes

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	GCDH also known as glutaryl-CoA dehydrogenase is an enzyme involved in the catabolic breakdown of specific amino acids. This protein harbors a mass of approximately 45 kDa and functions primarily within the mitochondria. GCDH expression occurs in various tissues including the liver kidney and brain. The enzyme plays a mechanical role by catalyzing the decarboxylation of glutaryl-CoA to crotonyl-CoA facilitating the removal of carbon dioxide in this biochemical process.
Biological function summary	This enzyme acts as an important component in the lysine hydroxylysine and tryptophan degradation pathways. GCDH does not form part of a larger enzyme complex but performs its function independently ensuring the proper degradation and metabolism of amino acids. Its activity aids in maintaining metabolic homeostasis preventing the accumulation of harmful intermediates within cells. GCDH may interact with cofactors like flavin adenine dinucleotide (FAD) to carry out its enzymatic activity.
Pathways	GCDH plays a significant role in the lysine and tryptophan metabolism pathways. Within these pathways GCDH helps convert glutaryl-CoA a molecule derived from amino acid catabolism into intermediates ultimately leading to energy production. The enzyme's functionality connects with other mitochondrial enzymes like isovaleryl-CoA dehydrogenase (IVD) which also participates in amino acid breakdown. Proper interaction and coordination within these pathways are essential for maintaining metabolic balance in the cell.
Associated diseases and disorders	GCDH is closely linked to glutaric aciduria type 1 (GA1) an inborn error of metabolism. This disorder arises from mutations in the GCDH gene leading to insufficient enzyme activity and subsequent buildup of glutaric acid. This accumulation can cause severe neurological damage over time if untreated. GA1 can show genetic connections with other metabolic disorders involving enzymes like medium-chain acyl-CoA dehydrogenase (MCAD). Understanding these interactions helps in diagnosing and managing such metabolic disorders.

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

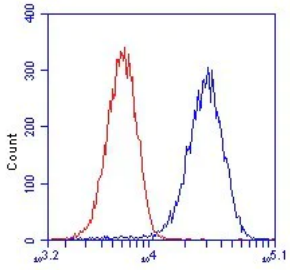
We do not recommend this combination. It is not covered by our product promise.

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.

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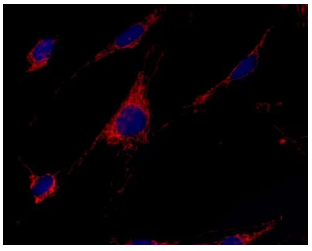
2 product images



Flow Cytometry - Anti-GCDH/GCD antibody [3E9BA3BF5] (ab112998)

GCDH/GCD Flow Cytometry staining using mouse Anti-GCDH/GCD antibody

ab112998 at 1ug/ml staining GCDH/GCD in HeLa cells by Flow Cytometry (blue). Isotype control antibody (red).



Immunocytochemistry/ Immunofluorescence - Anti-GCDH/GCD antibody [3E9BA3BF5] (ab112998)

ab112998 at 1 µg/ml staining GCDH/GCD in fibroblast cells by immunocytochemistry (4% paraformaldehyde fixed and 0.1% Triton X-100 permeabilized) followed by Alexa Fluor® 594 goat anti-mouse IgG (H+L) used at a 1/1000 dilution for 1 hour (red). Nuclei were stained with DAPI.

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