abcam

ab250594

# Anti-GCDH/GCD antibody [EPR14864(B)] - BSA and Azide free

Recombinant | RabMAb

## 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** | EPR14864(B) |
| **Purification technique** | Affinity purification |

## Reactivity data

## WB

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

### Predicted

| | |
|---|---|
| **Species** | Mouse, Rat |
| **Dilution info** | - |
| **Notes** | - |

## Flow Cyt (Intra)

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

### Predicted

| | |
|---|---|
| **Species** | Mouse, Rat |
| **Dilution info** | - |
| **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 conditions** | +4°C |
| **Appropriate long-term storage conditions** | +4°C |
| **Storage information** | Do Not Freeze |

## Notes

ab250594 is the carrier-free version of ab182152.

**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** | 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**

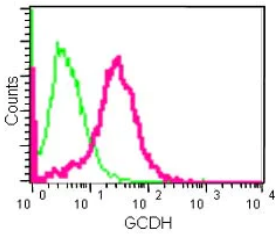
We do not recommend this combination. It is not covered by our product promise.

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.

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

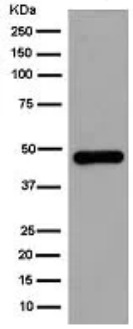
## 3 product images




## Flow Cytometry (Intracellular) - Anti-GCDH/GCD antibody [EPR14864(B)] - BSA and Azide free (ab250594)

GCDH/GCD Flow Cytometry (Intracellular) staining using rabbit Anti-GCDH/GCD antibody

This data was developed using ab182152, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of PC3 cells (paraformaldehyde-fixed, 2%) labeling GCDH/GCD with ab182152 at 1/80 dilution (red) or a rabbit IgG (negative) (green), followed by Goat anti rabbit IgG (FITC) secondary at 1/150 dilution.




## Western blot - Anti-GCDH/GCD antibody [EPR14864(B)] - BSA and Azide free (ab250594)

GCDH/GCD Western blot staining of Human fetal liver lysate using rabbit Anti-GCDH/GCD antibody

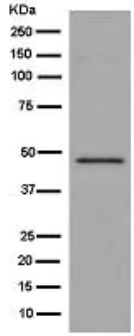
This data was developed using ab182152, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-GCDH/GCD antibody [EPR14864(B)] (ab182152) at 1/20000 dilution

All lanes:
Human fetal liver lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugate at 1/1000 dilution

Predicted band size: 48 kDa




## Western blot - Anti-GCDH/GCD antibody [EPR14864(B)] - BSA and Azide free (ab250594)

This data was developed using ab182152, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-GCDH/GCD antibody [EPR14864(B)] (ab182152) at 1/5000 dilution

All lanes:
HepG2 cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugate at 1/1000 dilution

Predicted band size: 48 kDa

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