abcam

BECKMAN COULTER

ab326186

SNv428 Anti-OGDH antibody [EPR27181-78]

Rabbit Recombinant Monoclonal OGDH antibody - conjugated to SNv428.
Suitable for Flow Cyt(Intra) and reacts with Human samples.

This is a Beckman Coulter product distributed by Abcam

Recombinant RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	SNv428
Excitation/Emission	Ex: 405nm, Em: 428nm
Storage buffer	pH: 7.4 Preservative: 0.1% Sodium azide Constituents: PBS, 0.2% BSA, 0.02% Pluronic F-68
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR27181-78
Purification technique	Affinity purification Protein A
Concentration	0.2 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/200
Notes	-

Target data

See full target information 2-oxoglutarate dehydrogenase, mitochondrial

Function	2-oxoglutarate dehydrogenase (E1o) component of the 2-oxoglutarate dehydrogenase complex (OGDHC) (PubMed:24495017, PubMed:25210035, PubMed:28435050). Participates in the first step, rate limiting for the overall conversion of 2-oxoglutarate to succinyl-CoA and CO(2) catalyzed by the whole OGDHC (PubMed:24495017, PubMed:25210035, PubMed:28435050). Catalyzes the irreversible decarboxylation of 2-oxoglutarate (alpha-ketoglutarate) via the thiamine diphosphate (ThDP) cofactor and subsequent transfer of the decarboxylated acyl intermediate on an oxidized dihydrolipoyl group that is covalently amidated to the E2 enzyme (dihydrolipoyllysine-residue succinyltransferase or DLST) (PubMed:24495017, PubMed:25210035, PubMed:28435050, PubMed:35272141). Plays a key role in the Krebs (citric acid) cycle, which is a common pathway for oxidation of fuel molecules, including carbohydrates, fatty acids, and amino acids (PubMed:25210035). Can catalyze the decarboxylation of 2-oxoadipate in vitro, but at a much lower rate than 2-oxoglutarate (PubMed:28435050). Can also convert 2-keto-4-hydroxyglutarate (KHG) and CoA into malyl-CoA (By similarity). Mainly active in the mitochondrion (PubMed:29211711). A fraction of the 2-oxoglutarate dehydrogenase complex also localizes in the nucleus and is required for lysine succinylation of histones: associates with KAT2A on chromatin and provides succinyl-CoA to histone succinyltransferase KAT2A (PubMed:29211711).

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	+4°C
Aliquoting information	Upon delivery aliquot

Storage information	Avoid freeze / thaw cycle

Notes

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.

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.

This is a Beckman Coulter product distributed by Abcam.

The SuperNova dye included in this product is provided under an intellectual property license from Beckman Coulter Life Sciences. As this product contains the SuperNova dye, the purchase of this product conveys to the buyer the non-transferable right to use the purchased product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity).

Supplementary info

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

Activity summary	OGDH also known as alpha-ketoglutarate dehydrogenase or a-ketoglutarate dehydrogenase is an enzyme that plays a significant role in metabolism. It catalyzes the conversion of alpha-ketoglutarate into succinyl-CoA and CO2 in the tricarboxylic acid (TCA) cycle also known as the Krebs cycle. The enzyme functions as a part of a multi-enzyme complex and has a molecular mass of approximately 1 MDa. OGDH is expressed in various tissues with higher levels typically found in the mitochondria of cells reflecting its role in cellular respiration.
Biological function summary	OGDH is critical for energy production by enabling the TCA cycle to proceed. It is a component of the alpha-ketoglutarate dehydrogenase complex consisting of multiple subunits which include E1 (OGDH itself) E2 (dihydrolipoamide succinyltransferase) and E3 (dihydrolipoamide dehydrogenase). This complex functions to ensure the proper oxidation of metabolites important for maintaining cellular energy homeostasis. Proper regulation of OGDH activity impacts several metabolic pathways influencing cellular glucose and lipid metabolism.
Pathways	OGDH is integrally involved in the TCA cycle a central metabolic pathway that connects carbohydrate fat and protein metabolism. Alongside related enzymes like pyruvate dehydrogenase (PDH) and isocitrate dehydrogenase (IDH) OGDH contributes to the generation of NADH and FADH2 essential carriers in the electron transport chain. The interplay between these enzymes ensures the

	smooth functioning of aerobic respiration linking glycolysis and oxidative phosphorylation.
Associated diseases and disorders	OGDH has links to neurodegenerative diseases such as Alzheimer's and Parkinson's disease. Abnormal activity of OGDH can lead to mitochondrial dysfunction a common feature observed in these disorders. The protein connects to pathways involving PDH dysfunction contributing to altered metabolic states seen in these conditions. Research continues to explore the potential of targeting OGDH in therapeutic strategies aimed at improving mitochondrial health and energy metabolism in affected patients.

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

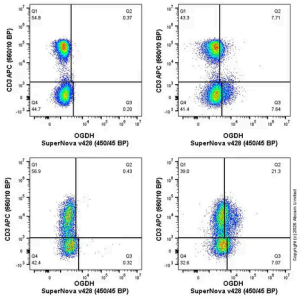
We do not recommend this combination. It is not covered by our product promise.

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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Terms & Conditions.

1 product image



Flow Cytometry (Intracellular) - SNv428 Anti-OGDH antibody [EPR27181-78] (ab326186)

OGDH Flow Cytometry (Intracellular) staining of Human peripheral mononuclear cells (PBMCs) using rabbit Anti-OGDH antibody

Flow cytometry scatter plots showing untreated human peripheral mononuclear cells (PBMCs) (top) and PBMCs activated with 5 µg/ml PHA for 18h (bottom), either stained with ab326186 (right) or FMO control (left). The cells were fixed and permeabilised using BD CytoFix/CytoPerm™ (20

min). The cells were incubated in 1x PBS containing 10 µg/ml human IgG, 10% normal goat serum and BD Pharmingen™ MonoBlock™ Leukocyte Staining Buffer (1/10) to block FC receptors and non-specific protein-protein interaction followed by the antibody (ab326186) (1x 106 in 100µl at 1 µg/ml (1/200)) for 30min on ice. The cells were simultaneously stained with CD3. Acquisition of >30000 events were collected using a 100 mW Violet laser (405nm) and 450/45 bandpass filter.This data was acquired using a Beckman Coulter CytoFlexLX flow cytometer.

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