abcam

ab311991

Alexa Fluor® 555 Anti-Pyruvate Dehydrogenase E1 beta subunit antibody [EPR11097(B)]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 555
Excitation/Emission	Ex: 555nm, Em: 565nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR11097(B)
Purification technique	Affinity purification Protein A

Reactivity data

Target Binding Affinity

Expected

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

Notes	-

Antibody Labelling

Expected

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

Flow Cyt

Expected

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

ICC/IF

Expected

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

IHC-P

Expected

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

Target data

See full target information PDHB

Function	Together with PDHA1 forms the heterotetrameric E1 subunit of the pyruvate dehydrogenase (PDH) complex (PubMed:17474719, PubMed:19081061). The PDH complex catalyzes the overall conversion of pyruvate to acetyl-CoA and CO(2), and thereby links cytoplasmic glycolysis and the mitochondrial tricarboxylic acid (TCA) cycle (Probable). It contains multiple copies of three enzymatic components: pyruvate dehydrogenase (E1), dihydrolipoamide acetyltransferase (E2) and dihydrolipoamide dehydrogenase (E3) (Probable). The E1 subunit catalyzes both the thiamine pyrophosphate (TPP)-dependent decarboxylation of pyruvate and the reductive acetylation of a lipoyl group covalently linked to the lipoyl-bearing domains of E2 (PubMed:19081061).

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
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle, Store in the dark

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.

How are conjugated primary antibodies validated?
This conjugated primary antibody is released using a quantitative quality control method that evaluates binding affinity post-conjugation and efficiency of antibody labeling.
For suitable applications and species reactivity, please refer to the unconjugated version of this clone.

Supplementary info

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

Activity summary	PDHB also known as pyruvate dehydrogenase beta subunit plays an important role in the conversion of pyruvate to acetyl-CoA. This protein forms a part of the pyruvate dehydrogenase complex (PDC) which occurs in mitochondria of numerous tissues. The PDHB subunit has a molecular mass of approximately 39 kDa. Expression of PDHB is not limited to one specific type of tissue it is generally found in various tissues indicating its widespread involvement in cellular metabolism.
Biological function summary	PDHB functions as an essential component of the PDC which catalyzes the decarboxylation of pyruvate linking glycolysis to the citric acid cycle. The PDC itself is a large multi-enzyme complex including other subunits such as E1 and E2 which coordinate efficiently to carry out its function. In this way PDHB contributes to energy production by enabling entry of carbon skeletons into the tricarboxylic acid cycle important for ATP generation.
Pathways	PDHB holds a significant role in central metabolic pathways namely glycolysis and the citric acid cycle. The conversion facilitated by the PDC forms a vital cornerstone for metabolic flux regulation influencing gluconeogenesis and fatty acid synthesis. PDHB also interacts with proteins such as pyruvate dehydrogenase kinase which regulates the PDC activity by phosphorylation thereby affecting energy metabolism directly.
Associated diseases and disorders	Alterations in PDHB can lead to metabolic disorders such as pyruvate dehydrogenase deficiency potentially causing neurological dysfunction due to impaired energy metabolism. PDHB mutations also have a link to mitochondrial diseases reflecting its significant role in energy homeostasis. In these contexts proteins like the pyruvate dehydrogenase phosphatase are involved highlighting the clinical relevance of PDHB alterations in maintaining proper metabolic health.

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.

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