abcam

ab110333

Anti-Pyruvate dehydrogenase E2/E3bp antibody [13G2AE2BH5]

Anti-Pyruvate dehydrogenase E2/E3bp antibody [13G2AE2BH5] (ab110333) is a mouse monoclonal antibody detecting PDHX in **Western Blot, Flow Cytometry, IHC-P, ICC/IF**. Suitable for **Cow, Human, Mouse, Rat**.

- KO validated for confirmed specificity
- Over 40 publications

KO Validated

Key facts

Isotype	IgG2a
Host species	Mouse
Storage buffer	pH: 7.5 Preservative: 0.02% Sodium azide Constituents: HEPES buffered saline
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	13G2AE2BH5
Purity	IgG fraction
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	ab110333 was produced in vitro using hybridomas grown in serum-free medium, and then purified by biochemical fractionation.

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/1000
Notes	Perform heat-mediated antigen retrieval via the pressure cooker method before commencing with IHC staining protocol.

Expected

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

Flow Cyt

Tested

Species	Human
Dilution info	1 µg/mL
Notes	ab170191 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Expected

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

WB

Tested

Species	Human
Dilution info	1 µg/mL
Notes	-

Species	Rat
Dilution info	1 µg/mL
Notes	-

Species	Mouse
Dilution info	1 µg/mL
Notes	-

Species	Cow
Dilution info	1 µg/mL
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1 µg/mL
Notes	(heat-induced antigen-retrieval improves signal)

Expected

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

Target data

See full target information DLAT

Function	The pyruvate dehydrogenase (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). Within this complex, the catalytic function of this enzyme is to accept, and to transfer to coenzyme A, acetyl groups from acetyl-lipoyl moiety generated by the pyruvate dehydrogenase, leading to acetyl-CoA formation (Probable).

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

What is this antibody validated in?
Anti-Pyruvate dehydrogenase E2/E3bp antibody [13G2AE2BH5] (ab110333) is a mouse monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Flow Cyt), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Cow, Human, Mouse, Rat samples.

What is the molecular weight of PDHX?
Anti-Pyruvate dehydrogenase E2/E3bp [13G2AE2BH5] (ab110333) specifically detects a band for PDHX (UniProt: O00330) at a molecular weight of 54 , 69kDa.

Trusted by the scientific community
Anti-Pyruvate dehydrogenase E2/E3bp [13G2AE2BH5] (ab110333) was first used in a scientific publication in 2011 and has been cited over 40 times in peer-reviewed journals.

Reviewed by scientists
Anti-Pyruvate dehydrogenase E2/E3bp [13G2AE2BH5] (ab110333) has over 5 independent reviews from customers.

Specificity confirmed
The specificity of Anti-Pyruvate dehydrogenase E2/E3bp antibody [13G2AE2BH5] (ab110333) has been confirmed by Western blot testing in DLAT Knockout HAP1 cells.

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	PDHX also known as pyruvate dehydrogenase protein X is a part of the pyruvate dehydrogenase complex. It has a molecular mass of about 54 kDa. PDHX is expressed mostly in tissues with high energy demands such as the heart and skeletal muscle. The protein has a critical role in linking glycolysis and the Krebs cycle by transferring the lipoamide group in the pyruvate dehydrogenase complex.

Biological function summary	PDHX functions as a component of the multi-enzyme pyruvate dehydrogenase complex (PDC). This complex is essential for the oxidative decarboxylation of pyruvate to acetyl-CoA within the mitochondria. PDHX coordinates with other enzymes such as E1 E2 and E3 carrying out its function by acting as an anchor to stabilize the PDC enhancing the efficiency of the catalytic process.
Pathways	PDHX participates in important metabolic pathways like glycolysis and the Krebs cycle. It relates closely with proteins such as E1 (pyruvate dehydrogenase) and E2 (dihydrolipoamide acetyltransferase) due to its role in facilitating the transition of energy substrates into the cycle. Its activity helps in the regulation of energy production within cells and impacts processes that depend on efficient energy conversion.
Associated diseases and disorders	Mutations or deficiencies in PDHX have connections with pyruvate dehydrogenase deficiency and metabolic disorders like Leigh syndrome. These conditions affect energy metabolism and can lead to severe neurological problems. The malfunction of PDHX impacts the pyruvate dehydrogenase complex as a whole leading to an increase of pyruvate levels and a decrease in ATP production linking it also with other involved proteins like E1 and E2.

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

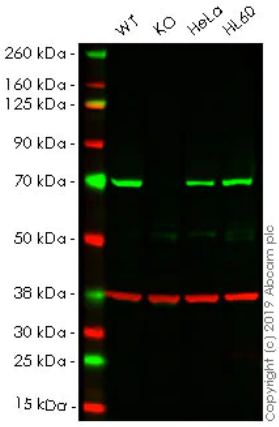
We do not recommend this combination. It is not covered by our product promise.

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.

6 product images



Western blot - Anti-Pyruvate dehydrogenase E2/E3bp antibody [13G2AE2BH5] (ab110333)

Pyruvate dehydrogenase E2/E3bp Western blot staining using mouse Anti-Pyruvate dehydrogenase E2/E3bp antibody

Lanes 1 - 4: Merged signal (red and green). Green - ab110333 observed at 72 kDa. Red - loading control, ab181602, observed at 38 kDa.
ab110333 was shown to specifically react with in wild-type HAP1 cells as signal was lost in DLAT knockout cells. Wild-type and DLAT knockout samples were subjected to SDS-PAGE. The membrane was blocked with 3% Milk. ab110333 and ab181602 (Rabbit anti-GAPDH loading control) were incubated overnight at 4°C at 1 µg/ml and 1/20000 dilution respectively. Blots were developed with Goat anti-Mouse IgG H&L (IRDye® 800CW) preabsorbed ab216772 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-Pyruvate dehydrogenase E2/E3bp antibody [13G2AE2BH5] (ab110333) at 1 µg/mL

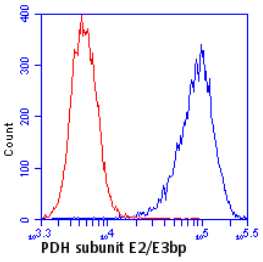
Lane 1:
Wild-type HAP1 whole cell lysate at 20 µg

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

Lane 3:
HeLa whole cell lysate at 20 µg

Lane 4:
HL-60 whole cell lysate at 20 µg

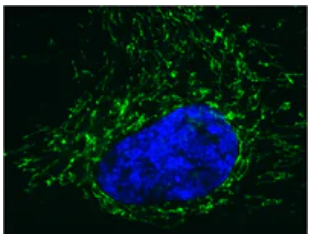
Predicted band size: 69 kDa



Flow Cytometry - Anti-Pyruvate dehydrogenase E2/E3bp antibody [13G2AE2BH5] (ab110333)

Pyruvate dehydrogenase E2/E3bp Flow Cytometry staining using mouse Anti-Pyruvate dehydrogenase E2/E3bp antibody

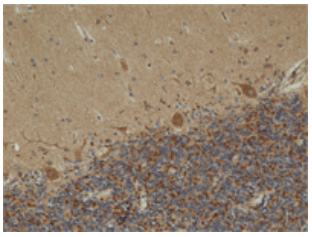
Flow cytometric analysis using ab110333 at 1µg/ml staining Pyruvate dehydrogenase E2/E3b in HL60 cells (blue). Isotype control antibody (red).



Immunocytochemistry/ Immunofluorescence - Anti-Pyruvate dehydrogenase E2/E3bp antibody [13G2AE2BH5] (ab110333)

Pyruvate dehydrogenase E2/E3bp Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Pyruvate dehydrogenase E2/E3bp antibody

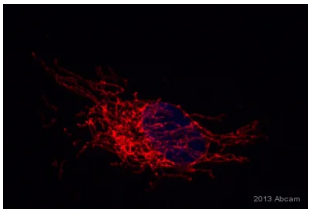
Immunocytochemistry analysis using ab110333 at 1µg/ml staining Pyruvate dehydrogenase E2/E3bp in cultured, normal Human embryonic lung fibroblasts and an AlexaFluor® 488 goat anti-mouse IgG2a secondary antibody (2 ug/ml).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Pyruvate dehydrogenase E2/E3bp antibody [13G2AE2BH5] (ab110333)

Pyruvate dehydrogenase E2/E3bp Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-Pyruvate dehydrogenase E2/E3bp antibody

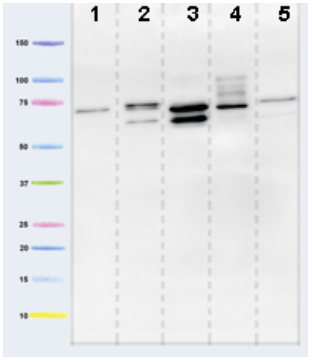
Immunohistological analysis using ab110333 at 1/1000 dilution staining Pyruvate dehydrogenase E2/E3bp in Human cerebellum tissue (Formalin-fixed, Paraffin-embedded).
Note: Immunoactivity is most intense in neuronal cell bodies, most notably in the large Purkinje cells.



This image is courtesy of a customer review submitted by Dimitra Kalamida

Immunocytochemistry/ Immunofluorescence - Anti-Pyruvate dehydrogenase E2/E3bp antibody [13G2AE2BH5] (ab110333)

ab110333 staining Pyruvate dehydrogenase E2/E3bp in Human HUVEC by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with paraformaldehyde, permeabilized with 0.1% Triton X-100 pH 7.4 for 5 minutes and blocked with 5% BSA for 20 minutes at room temperature. Samples were incubated with primary antibody (1/1000 in PBS) for 1 hour. A CF568-conjugated Goat anti-mouse IgG polyclonal (1/500) was used as the secondary antibody.



Western blot - Anti-Pyruvate dehydrogenase E2/E3bp antibody [13G2AE2BH5] (ab110333)

All lanes:
Western blot - Anti-Pyruvate dehydrogenase E2/E3bp antibody [13G2AE2BH5] (ab110333) at 1 µg/mL

Lane 1:
Isolated mitochondria from Human heart at 5 µg

Lane 2:
Isolated mitochondria from Bovine heart at 1 µg

Lane 3:
Isolated mitochondria from Rat heart at 10 µg

Lane 4:
Isolated mitochondria from Mouse heart at 10 µg

Lane 5:
HepG2 cell lysate at 20 µg

Predicted band size: 69 kDa

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