### Overview

**Product name**  
Anti-Pyruvate Dehydrogenase E2 antibody [15D3G9C11]

**Description**  
Mouse monoclonal [15D3G9C11] to Pyruvate Dehydrogenase E2

**Host species**  
Mouse

**Tested applications**  
Suitable for: WB, ICC/IF, Flow Cyt, IHC-P, In-Cell ELISA

**Species reactivity**  
Reacts with: Cow, Human

**Immunogen**  
Full length protein. This information is considered to be commercially sensitive.

**Positive control**  
Isolated mitochondria from Human heart; Normal Human embryonic lung fibroblasts (strain MRC5); Human cerebellum tissue; HL60 cells.

**General notes**  
This antibody clone is manufactured by Abcam.

Product was previously marketed under the MitoSciences sub-brand.  
If you require this antibody in a particular buffer formulation or a particular conjugate for your experiments, please contact orders@abcam.com or you can find further information here.

### Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Form</strong></td>
<td>Liquid</td>
</tr>
<tr>
<td><strong>Storage instructions</strong></td>
<td>Shipped at 4°C. Store at +4°C. Do Not Freeze.</td>
</tr>
</tbody>
</table>
| **Storage buffer**        | Preservative: 0.02% Sodium azide  
Constituent: HEPES buffered saline                                         |
| **Purity**                | IgG fraction                                                            |
| **Purification notes**    | ab110332 was produced in vitro using hybridomas grown in serum-free medium, and then purified by biochemical fractionation. |
| **Clonality**             | Monoclonal                                                             |
| **Clone number**          | 15D3G9C11                                                              |
| **Isotype**               | IgG1                                                                   |
| **Light chain type**      | kappa                                                                  |
Function
The pyruvate dehydrogenase complex catalyzes the overall conversion of pyruvate to acetyl-CoA and CO(2). It contains multiple copies of three enzymatic components: pyruvate dehydrogenase (E1), dihydrolipoamide acetyltransferase (E2) and lipoamide dehydrogenase (E3).

Involvement in disease
Note=Primary biliary cirrhosis is a chronic, progressive cholestatic liver disease characterized by the presence of antimitochondrial autoantibodies in patients' serum. It manifests with inflammatory obliteration of intra-hepatic bile duct, leading to liver cell damage and cirrhosis. Patients with primary biliary cirrhosis show autoantibodies against the E2 component of pyruvate dehydrogenase complex.

Defects in DLAT are the cause of pyruvate dehydrogenase E2 deficiency (PDHE2 deficiency) [MIM:245348]; also known as lactic acidemia due to defect of E2 lipoyl transacetylase of the pyruvate dehydrogenase complex. Pyruvate dehydrogenase (PDH) deficiency is a major cause of primary lactic acidosis and neurological dysfunction in infancy and early childhood. In this form of PDH deficiency episodic dystonia is the major neurological manifestation, with other more common features of pyruvate dehydrogenase deficiency, such as hypotonia and ataxia, being less prominent.

Sequence similarities
Belongs to the 2-oxoacid dehydrogenase family.
Contains 2 lipoyl-binding domains.

Cellular localization
Mitochondrion matrix.

Applications
Our Abpromise guarantee covers the use of ab110332 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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<tbody>
<tr>
<td>WB</td>
<td></td>
<td>Use a concentration of 0.5 µg/ml. Predicted molecular weight: 69 kDa.</td>
</tr>
<tr>
<td>ICC/IF</td>
<td></td>
<td>Use a concentration of 0.2 - 0.5 µg/ml. (heat-induced antigen-retrieval improves signal).</td>
</tr>
<tr>
<td>Flow Cyt</td>
<td></td>
<td>Use a concentration of 1 µg/ml. ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.</td>
</tr>
<tr>
<td>IHC-P</td>
<td>1/100. Perform heat mediated antigen retrieval via the pressure cooker method before commencing with IHC staining protocol.</td>
<td></td>
</tr>
<tr>
<td>In-Cell ELISA</td>
<td>Use a concentration of 1 µg/ml.</td>
<td></td>
</tr>
<tr>
<td>ELISA</td>
<td></td>
<td>Use a concentration of 1 µg/ml.</td>
</tr>
<tr>
<td>Flow Cyt</td>
<td></td>
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<td></td>
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Target

Function
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Contains 2 lipoyl-binding domains.

Cellular localization
Mitochondrion matrix.
All lanes: Anti-Pyruvate Dehydrogenase E2 antibody [15D3G9C11] (ab110332) at 0.5 µg

Lane 1: Wild-type HAP1 whole cell lysate
Lane 2: DLAT knockout HAP1 whole cell lysate
Lane 3: HeLa whole cell lysate
Lane 4: HL-60 whole cell lysate

Lysates/proteins at 20 µg per lane.

Predicted band size: 69 kDa

Lanes 1 - 4: Merged signal (red and green). Green - ab110332 observed at 72 kDa. Red - loading control, ab181602, observed at 38 kDa.

ab110332 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. Ab110332 and ab181602 (Rabbit anti-GAPDH loading control) were incubated overnight at 4°C at 0.5 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.
Anti-Pyruvate Dehydrogenase E2 antibody [15D3G9C11] (ab110332) at 0.5 µg/ml + isolated mitochondria from Human heart at 5 µg

**Predicted band size:** 69 kDa

Immunocytochemistry analysis using ab110332 at 1µg/ml staining Pyruvate Dehydrogenase E2 in cultured, normal Human embryonic lung fibroblasts (strain MRC5) and an AlexaFluor® 488 goat anti-mouse IgG1 secondary antibody (2 ug/ml).

Immunohistological analysis using ab110332 at 1/100 dilution staining Pyruvate Dehydrogenase E2 in Human cerebellum tissue (Formalin-fixed, Paraffin-embedded).
Flow cytometric analysis using ab110332 at 1µg/ml staining Pyruvate Dehydrogenase E2 in HL60 cells (blue). Isotype control antibody (red).

Please note: All products are “FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES”

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