Pyruvate Dehydrogenase (C54G1) Rabbit mAb

**Product Usage Information**

<table>
<thead>
<tr>
<th>Application</th>
<th>Dilution</th>
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</thead>
<tbody>
<tr>
<td>Western Blotting</td>
<td>1:1000</td>
</tr>
<tr>
<td>Immunohistochemistry</td>
<td>1:50 - 1:200</td>
</tr>
</tbody>
</table>

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at −20°C. Do not aliquot the antibody.

**Specificity / Sensitivity**

Pyruvate Dehydrogenase (C54G1) Rabbit mAb detects endogenous levels of total pyruvate dehydrogenase α1 subunit.

**Species Reactivity:**

Human, Mouse, Rat, Monkey

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to the sequence of human pyruvate dehydrogenase.

**Background**

The pyruvate dehydrogenase complex catalyzes the conversion of pyruvate and CoA into acetyl-CoA and CO₂ in the presence of NAD⁺. Acetyl-CoA then goes into the citric acid cycle where it reacts with oxaloacetate to form citrate. Acetyl-CoA is also used for fatty acid and cholesterol biosynthesis. The reaction of oxidative decarboxylation of pyruvate therefore serves as a critical link between glycolysis and the citric acid cycle and lipid metabolism. In mammalian cells, the pyruvate dehydrogenase complex is located in the mitochondrial matrix (1). This complex is comprised of three enzymes: pyruvate dehydrogenase (E1), dihydrolipoamide acetyltransferase (E2) and dihydrolipoamide dehydrogenase (E3). Pyruvate dehydrogenase (E1) consists of two subunits: α and β.

This enzyme catalyzes the removal of CO₂ from pyruvate. Mutations in the α subunits of pyruvate dehydrogenase (E1) lead to congenital defects that are usually associated with lactic acidosis, neurodegeneration and early death (2).


**Species Reactivity**

For Research Use Only. Not For Use In Diagnostic Procedures.

**APPLICATIONS KEY**

<table>
<thead>
<tr>
<th>WB</th>
<th>IHC-P</th>
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<tbody>
<tr>
<td>IP</td>
<td>IM</td>
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<tr>
<td>Chromatin Immunoprecipitation</td>
<td>Immunofluorescence</td>
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</tbody>
</table>

**CROSS-REACTIVITY KEY**

<table>
<thead>
<tr>
<th>chicken</th>
<th>D. melanogaster</th>
<th>X. nematode</th>
<th>zebrafish</th>
<th>bovine</th>
<th>dog</th>
<th>pig</th>
<th>SC.</th>
<th>Caenorhabitis</th>
<th>elegans</th>
<th>horse</th>
<th>All species expected</th>
</tr>
</thead>
</table>

**IMPORTANT:** For primary antibodies recommended for western blotting applications, we recommend incubating the membrane with diluted antibody at 4°C with gentle shaking overnight. Please refer to the western blot protocol found on the product web page for the antibody-specific diluent recommendation.

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#3205

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