Revision 1

Store at -20C

#2784

Pyruvate Dehydrogenase Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Mk	Endogenous	43	Rabbit	#P08559	5160

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

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

Specificity/Sensitivity

Pyruvate Dehydrogenase Antibody detects endogenous levels of total α1 and α2 subunits of pyruvate dehydrogenase protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the sequences of both α1 and α2 subunits of human pyruvate dehydrogenase. Antibodies are purified by peptide affinity chromatography.

Background

The pyruvate dehydrogenase complex catalyzes the conversion of pyruvate and CoA into acetyl-CoA and CO_2 in the presence of NAD^+. Acetyl-CoA then goes into the citric acid cycle where it reacts with oxaloacetate to form citrate. The reaction of oxidative decarboxylation of pyruvate serves as a critical link between glycolysis and the citric acid cycle. In mammalian cells, the pyruvate dehydrogenase complex is located in the mitochondrial matrix (1). This complex is composed 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 CO_2 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).

Background References

1. Strumiło, S. (2005) *Acta Biochim Pol* 52, 759-64.
2. Stacpoole, P.W. et al. (2003) *Curr Gene Ther* 3, 239-45.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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