

#3205 Store at -20°C

Pyruvate Dehydrogenase (C54G1) Rabbit mAb

100 µl
 (10 western blots)



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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IHC-P Endogenous	H, M, R, Mk	43 kDa	Rabbit IgG**

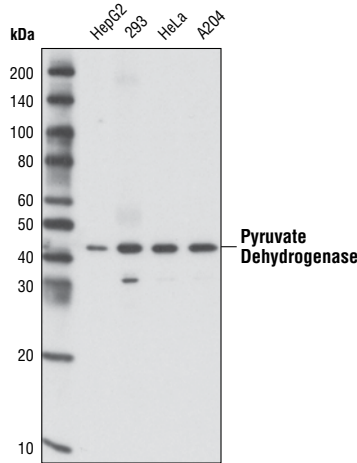
Background: The pyruvate dehydrogenase complex catalyzes the conversion of pyruvate and CoA into acetyl-CoA and CO₂ in the presence of NAD⁺. Acetyl-CoA then goes into the citric acid cycle where it reacts with oxaloacetate to form citrate. Acetyl-CoA is also used for fatty acid and cholesterol biosynthesis. 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), dihydroliipoamide acetyltransferase (E2) and dihydroliipoamide 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).

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

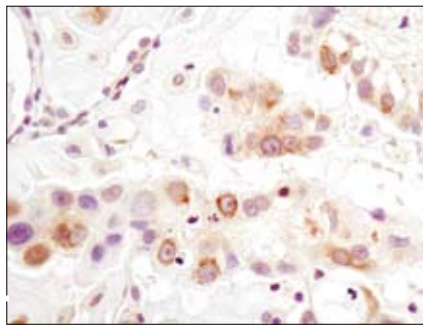
Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to the sequence of human pyruvate dehydrogenase.

Background References:

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



Western blot analysis of extracts from various cell lines using Pyruvate Dehydrogenase (C54G1) Rabbit mAb.



Immunohistochemical analysis of paraffin-embedded human lung carcinoma using Pyruvate Dehydrogenase (C54G1) Rabbit mAb.

Entrez-Gene ID #5160
Swiss-Prot Acc. #P08559

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.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

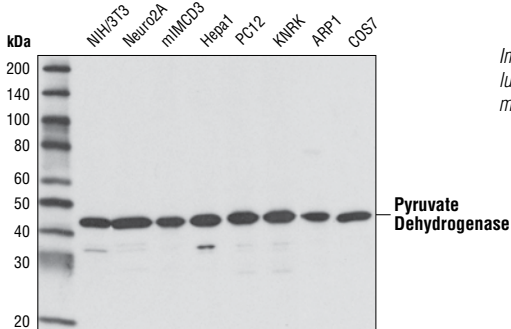
Recommended Antibody Dilutions:

Western blotting	1:1000
Immunohistochemistry (Paraffin)	1:100
Unmasking buffer:	Citrate
Antibody diluent:	SignalStain® Antibody Diluent #8112

For application specific protocols please see the web page for this product at www.cellsignaling.com.

Please visit www.cellsignaling.com for a complete listing of recommended companion products.

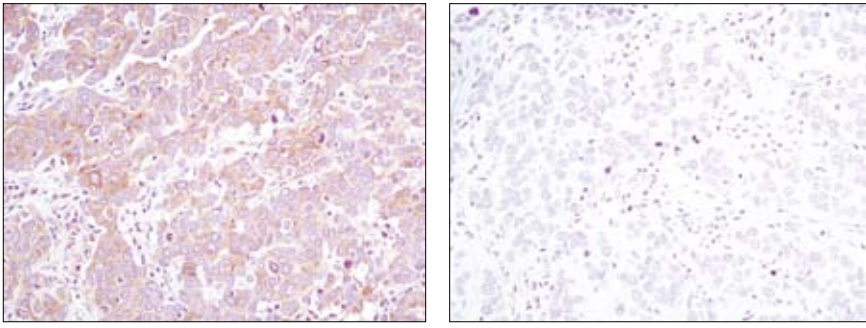
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Western blot analysis of various cell lines using Pyruvate Dehydrogenase (C54G1) Rabbit mAb.

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

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.



Immunohistochemical analysis of paraffin-embedded human breast carcinoma using Pyruvate Dehydrogenase (C54G1) Rabbit mAb in the presence of control peptide (left) or antigen-specific peptide (right).