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Mouse Pdk2 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP14075a

Product Information

Application	WB, IHC-P, E
Primary Accession	Q9JK42
Other Accession	Q64536, Q15119, NP_598428.2
Reactivity	Human, Mouse
Predicted	Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB34663
Calculated MW	46041
Antigen Region	78-107

Additional Information

Gene ID	18604
Other Names	[Pyruvate dehydrogenase (acetyl-transferring)] kinase isozyme 2, mitochondrial, Pyruvate dehydrogenase kinase isoform 2, PDH kinase 2, Pdk2
Target/Specificity	This Mouse Pdk2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 78-107 amino acids from the N-terminal region of mouse Pdk2.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Mouse Pdk2 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Pdk2
Function	Kinase that plays a key role in the regulation of glucose and fatty acid metabolism and homeostasis via phosphorylation of the pyruvate

dehydrogenase subunits PDHA1 and PDHA2 (PubMed:22360721). This inhibits pyruvate dehydrogenase activity, and thereby regulates metabolite flux through the tricarboxylic acid cycle, down-regulates aerobic respiration and inhibits the formation of acetyl-coenzyme A from pyruvate. Inhibition of pyruvate dehydrogenase decreases glucose utilization and increases fat metabolism. Mediates cellular responses to insulin. Plays an important role in maintaining normal blood glucose levels and in metabolic adaptation to nutrient availability. Via its regulation of pyruvate dehydrogenase activity, plays an important role in maintaining normal blood pH and in preventing the accumulation of ketone bodies under starvation. Plays a role in the regulation of cell proliferation and in resistance to apoptosis under oxidative stress. Plays a role in p53/TP53-mediated apoptosis.

Cellular Location Mitochondrion matrix

Tissue Location Detected in heart (at protein level).

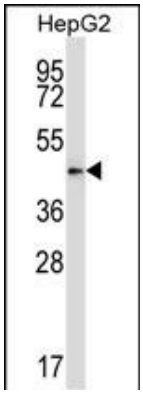
Background

Pdk2 inhibits the mitochondrial pyruvate dehydrogenase complex by phosphorylation of the E1 alpha subunit, thus contributing to the regulation of glucose metabolism.

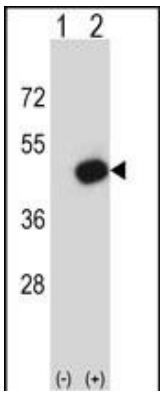
References

Sun, W., et al. Clin. Cancer Res. 15(2):476-484(2009)
Pagliarini, D.J., et al. Cell 134(1):112-123(2008)
Osafune, K., et al. Development 133(1):151-161(2006)
Papin, J., et al. Curr. Opin. Biotechnol. 15(1):78-81(2004)
Mootha, V.K., et al. Cell 115(5):629-640(2003)

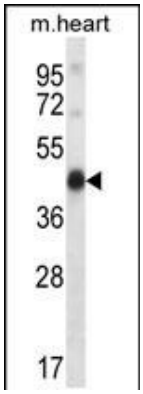
Images



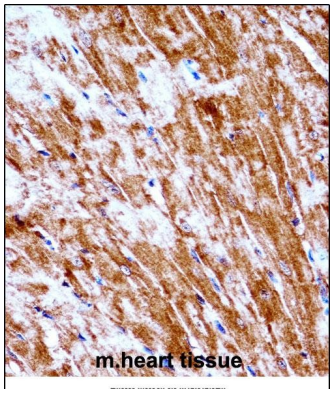
Mouse Pdk2 Antibody (N-term) (Cat. #AP14075a) western blot analysis in HepG2 cell line lysates (35ug/lane).This demonstrates the Pdk2 antibody detected the Pdk2 protein (arrow).



Western blot analysis of Pdk2 (arrow) using rabbit polyclonal Mouse Pdk2 Antibody (N-term) (Cat. #AP14075a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the Pdk2 gene.



Mouse Pdk2 Antibody (N-term) (Cat. #AP14075a) western blot analysis in mouse heart tissue lysates (35ug/lane).This demonstrates the Pdk2 antibody detected the Pdk2 protein (arrow).



Mouse Pdk2 Antibody (N-term) (AP14075a)immunohistochemistry analysis in formalin fixed and paraffin embedded mouse heart tissue followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of Mouse Pdk2 Antibody (N-term) for immunohistochemistry. Clinical relevance has not been evaluated.