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Mouse Pdk4 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP14837a

Product Information

Application	WB, E
Primary Accession	O70571
Other Accession	O54937, NP_038771.1
Reactivity	Mouse
Predicted	Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB34678
Calculated MW	46596
Antigen Region	82-110

Additional Information

Gene ID	27273
Other Names	[Pyruvate dehydrogenase (acetyl-transferring)] kinase isozyme 4, mitochondrial, Pyruvate dehydrogenase kinase isoform 4, Pdk4
Target/Specificity	This Mouse Pdk4 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 82-110 amino acids from the N-terminal region of mouse Pdk4.
Dilution	WB~~1:1000 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 Pdk4 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Pdk4
Function	Kinase that plays a key role in regulation of glucose and fatty acid metabolism and homeostasis via phosphorylation of the pyruvate

dehydrogenase subunits PDHA1 and PDHA2. 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 in response to prolonged fasting and starvation. Plays an important role in maintaining normal blood glucose levels under starvation, and is involved in the insulin signaling cascade. 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. In the fed state, mediates cellular responses to glucose levels and to a high-fat diet. Regulates both fatty acid oxidation and de novo fatty acid biosynthesis. Plays a role in the generation of reactive oxygen species. Protects detached epithelial cells against anoikis. Plays a role in cell proliferation via its role in regulating carbohydrate and fatty acid metabolism.

Cellular Location Mitochondrion matrix.

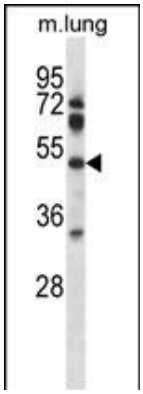
Background

Pdk4 inhibits the mitochondrial pyruvate dehydrogenase complex by phosphorylation of the E1 alpha subunit, thus contributing to the regulation of glucose metabolism (By similarity).

References

Hyvarinen, J., et al. J. Biol. Chem. 285(18):13646-13657(2010)
Hwang, B., et al. Biochem. J. 423(2):243-252(2009)
Hsieh, M.C., et al. J. Biol. Chem. 283(41):27410-27417(2008)
Lai, L., et al. Genes Dev. 22(14):1948-1961(2008)
Pagliarini, D.J., et al. Cell 134(1):112-123(2008)

Images



Mouse Pdk4 Antibody (N-term) (Cat. #AP14837a) western blot analysis in mouse lung tissue lysates (35ug/lane).This demonstrates the Pdk4 antibody detected the Pdk4 protein (arrow).