

Anti-PDK4 Picoband Antibody

Catalog # ABO12459

Product Information

Application	WB
Primary Accession	Q16654
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for [Pyruvate dehydrogenase (acetyl-transferring)] kinase isozyme 4, mitochondrial(PDK4) detection. Tested with WB in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	5166
Other Names	[Pyruvate dehydrogenase (acetyl-transferring)] kinase isozyme 4, mitochondrial, 2.7.11.2, Pyruvate dehydrogenase kinase isoform 4, PDK4, PDHK4
Calculated MW	46469
Application Details	Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat
Subcellular Localization	Mitochondrion matrix.
Tissue Specificity	Ubiquitous; highest levels of expression in heart and skeletal muscle. .
Source	Eukaryota
Protein Name	[Pyruvate dehydrogenase (acetyl-transferring)] kinase isozyme 4, mitochondrial
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg Na ₃ N.
Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human PDK4 (91-125aa WYIQSLMDLVEFHEKSPDDQKALSDFVDTLIKVRN), different from the related mouse and rat sequences by three amino acids.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins.

Storage At -20 °C for one year. After reconstitution, at 4 °C for one month. It can also be aliquotted and stored frozen at -20 °C for a longer time. Avoid repeated freezing and thawing.

Protein Information

Name PDK4

Synonyms PDHK4

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.

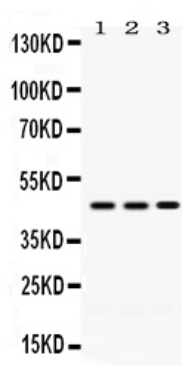
Cellular Location Mitochondrion matrix.

Tissue Location Ubiquitous; highest levels of expression in heart and skeletal muscle.

Background

Pyruvate dehydrogenase lipoamide kinase isozyme 4, mitochondrial is an enzyme that in humans is encoded by the PDK4 gene. This gene is a member of the PDK/BCKDK protein kinase family and encodes a mitochondrial protein with a histidine kinase domain. This protein is located in the matrix of the mitochondria and inhibits the pyruvate dehydrogenase complex by phosphorylating one of its subunits, thereby contributing to the regulation of glucose metabolism. Expression of this gene is regulated by glucocorticoids, retinoic acid and insulin. In addition, PDK4 is increased in hibernation and helps to decrease metabolism and conserve glucose by decreasing its conversion to acetyl-CoA, which enters the citric acid cycle and is converted to ATP.

Images



Anti- PDK4 Picoband antibody, ABO12459, Western blotting
All lanes: Anti PDK4 (ABO12459) at 0.5ug/ml
Lane 1: Rat Lung Tissue Lysate at 50ug
Lane 2: Mouse Thymus Tissue Lysate at 50ug
Lane 3: HELA Whole Cell Lysate at 40ug
Predicted bind size: 46KD
Observed bind size: 46KD

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.