BOSTER BIOLOGICAL TECHNOLOGY
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Anti-PDK4 Antibody Picoband®

Catalog Number: PB9773

About PDK4

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 mitrochondria 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.

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Overview

Product Name	Anti-PDK4 Antibody Picoband®
Reactive Species	Human, Rat
Description	Boster Bio Anti-PDK4 Antibody Picoband® catalog # PB9773. Tested in WB applications. This antibody reacts with Human, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	WB
Clonality	Polyclonal
Formulation	Each vial contains antibody formulated with stabilizing components, 0.9 mg NaCl, 0.2 mg Na2HPO4, and 0.05 mg NaN3. *This antibody is supplied in a stabilized formulation. Compatibility with conjugation reactions depends on the chemistry of the conjugation method used. For conjugation methods that are not compatible with the stabilizing components present in this formulation, a carrier-free antibody format is required.
Storage Instructions	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	Q16654

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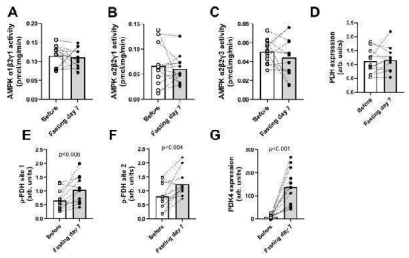
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Technical Details

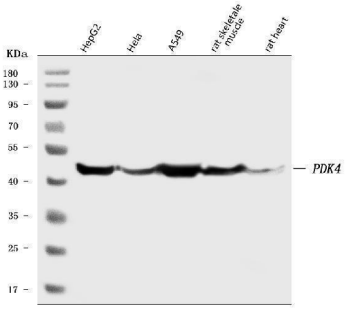
Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human PDK4, different from the related mouse and rat sequences by three amino acids.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot.
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.1-0.5ug/ml, Human, Rat

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Anti-PDK4 Antibody Picoband® (PB9773) Images



AMPK activity, protein expression and phosphorylation of PDH and PDK4 before and after fasting. Effect of seven days' fasting on activity, phosphorylation and expression of selected proteins. White and grey bars represent means before and after seven days of fasting. White circles represent individuals before fasting and black after fasting, with dotted lines to illustrate individual change. A , B and C Activity of AMPK complex: alpha1beta2gamma1, alpha2beta2gamma1, and alpha2beta2gamma3. D Protein expression of PDH. E Phosphorylation of PDH at site 1. F Phosphorylation of PDH at site 2. G Expression of PDK4. Bars show means. Two-sided paired t tests were used for comparisons. N = 13 for (A – C , F and G) N = 12 for (D and E). Abbreviation: AMPK: 5'-Adenosine monophosphate-activated protein kinase. PDH: pyruvate dehydrogenase, PDK4: pyruvate dehydrogenase kinase-4. Index in PubMed under a CC BY license. PMID: 39747857



Western blot analysis of PDK4 using anti-PDK4 antibody (PB9773). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human HepG2 whole cell lysates, Lane 2: human Hela whole cell lysates, Lane 3: human A549 whole cell lysates, Lane 4: rat skeletal muscle tissue lysates, Lane 5: rat heart tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-PDK4 antigen affinity purified polyclonal antibody (Catalog # PB9773) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for PDK4 at approximately 46 kDa. The expected band size for PDK4 is at 46 kDa.

1 Publications Citing This Product

1. PubMed ID: 33203874, Ma WQ,Sun XJ,Zhu Y,Liu NF. PDK4 promotes vascular calcification by interfering with autophagic activity and metabolic reprogramming. Cell Death Dis.2020 Nov 17;11(11):991.doi:10.1038/s41419-020-03162-w. PMID:33203874;PMCID:PMC7673024.

Visit bosterbio.com/anti-pdk4-picoband-trade-antibody-pb9773-boster.html to see all 1 publications.

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