SunLong Biotech Co.,LTD
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Rabbit Anti-PDK4 antibody

SL0682R

Product Name	PDK4
Chinese Name	丙酮酸脱氢酶激酶 4 抗体
Alias	FLJ40832; Pyruvate dehydrogenase [lipoamide] kinase isozyme 4 mitochondrial; Pyruvate dehydrogenase kinase 4; Pyruvate dehydrogenase kinase isoform 4; Pyruvate dehydrogenase kinase isozyme 4 mitochondrial.
Research Area	Cell biology Mitochondrion
Immunogen Species	Rabbit
Clonality	Polyclonal
React Species	Human, Mouse, Rat,
Applications	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500 （Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Theoretical molecular weight	47kDa
Cellular localization	cytoplasmic The cell membrane Mitochondrion
Form	Liquid
Concentration	1mg/ml
immunogen	KLH conjugated synthetic peptide derived from human Pdk4: 311-411/411
Lsotype	IgG
Purification	affinity purified by Protein A
Buffer Solution	1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.
Storage	Shipped at 4℃. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.
Attention	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
PubMed	PubMed

Product Detail

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. [provided by RefSeq, Jul 2008].

Function:
Serine/threonine 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.

Subunit:
Homodimer. Interacts with the pyruvate dehydrogenase complex subunit DLAT, and is part of the multimeric pyruvate dehydrogenase complex that contains multiple copies of pyruvate dehydrogenase (E1), dihydrolipoamide acetyltransferase (DLAT, E2) and lipoamide dehydrogenase (DLD, E3).

Subcellular Location:
Mitochondrion matrix.

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

Similarity:
Belongs to the PDK/BCKDK protein kinase family.
Contains 1 histidine kinase domain.

SWISS:
Q16654

Gene ID:
5166

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Database links:

Entrez Gene: 5166 Human

Entrez Gene: 27273 Mouse

Entrez Gene: 89813 Rat

Omim: 602527 Human

SwissProt: Q16654 Human

SwissProt: O70571 Mouse

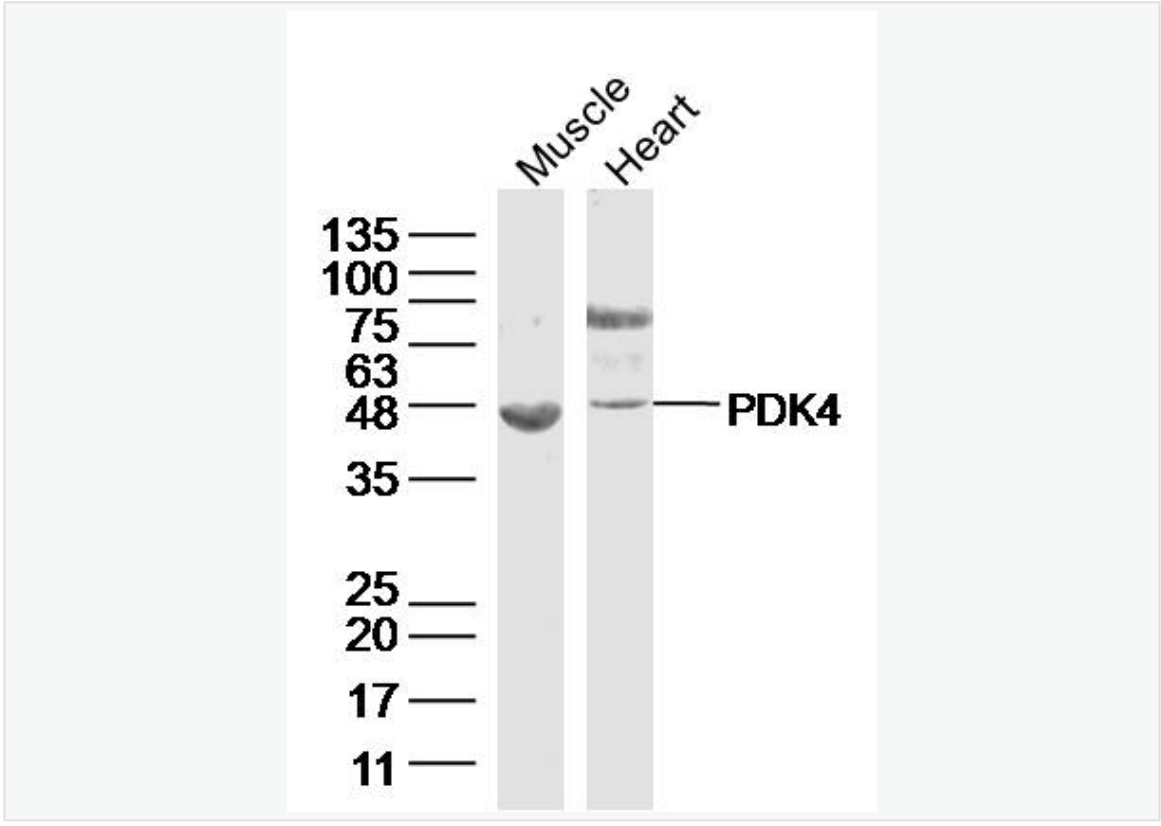
SwissProt: O54937 Rat

Unigene: 8364 Human

Unigene: 235547 Mouse

Unigene: 11766 Rat

Product Picture



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Sample:

Muscle (Mouse) Lysate at 40 ug

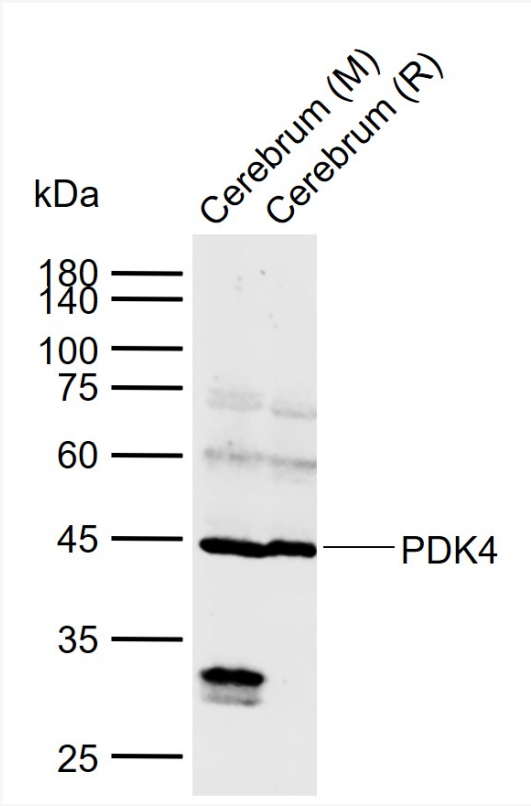
Heart (Mouse) Lysate at 40 ug

Primary: Anti-PDK4 (SL0682R) at 1/300 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 47 kD

Observed band size: 47 kD



Sample:

Lane 1: Mouse Cerebrum tissue lysates

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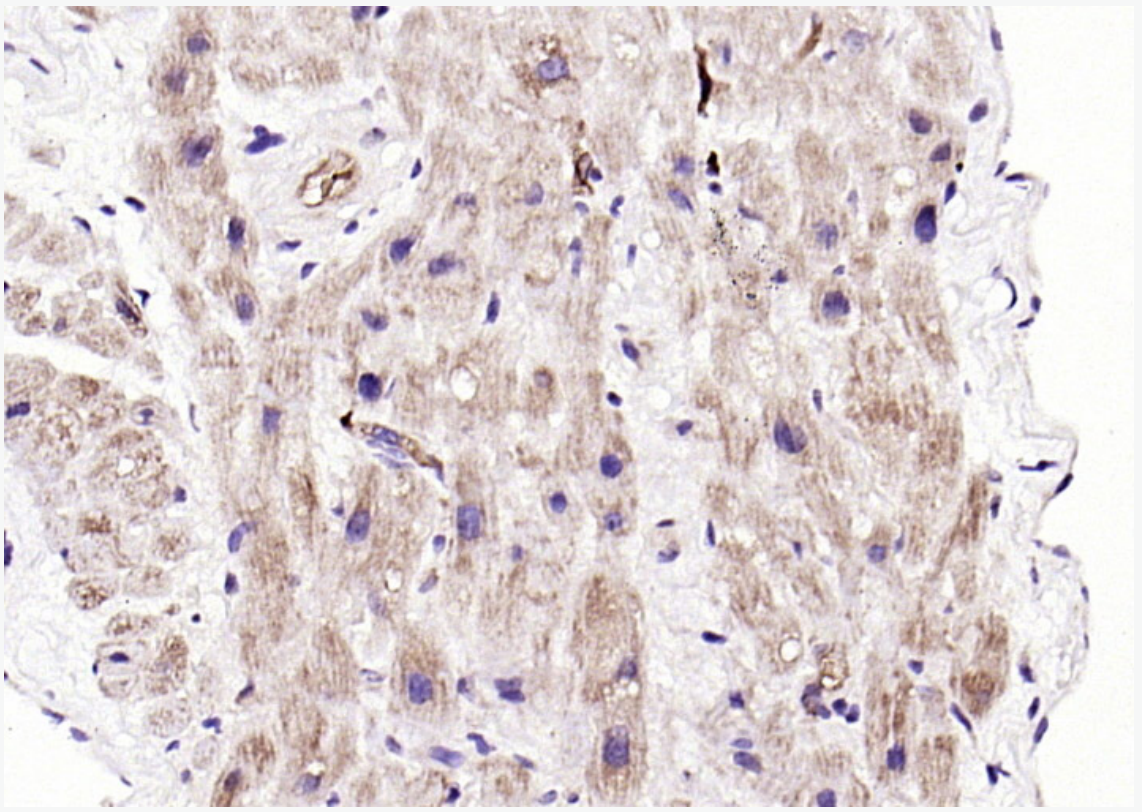
Lane 2: Rat Cerebrum tissue lysates

Primary: Anti-PDK4 (SL0682R) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

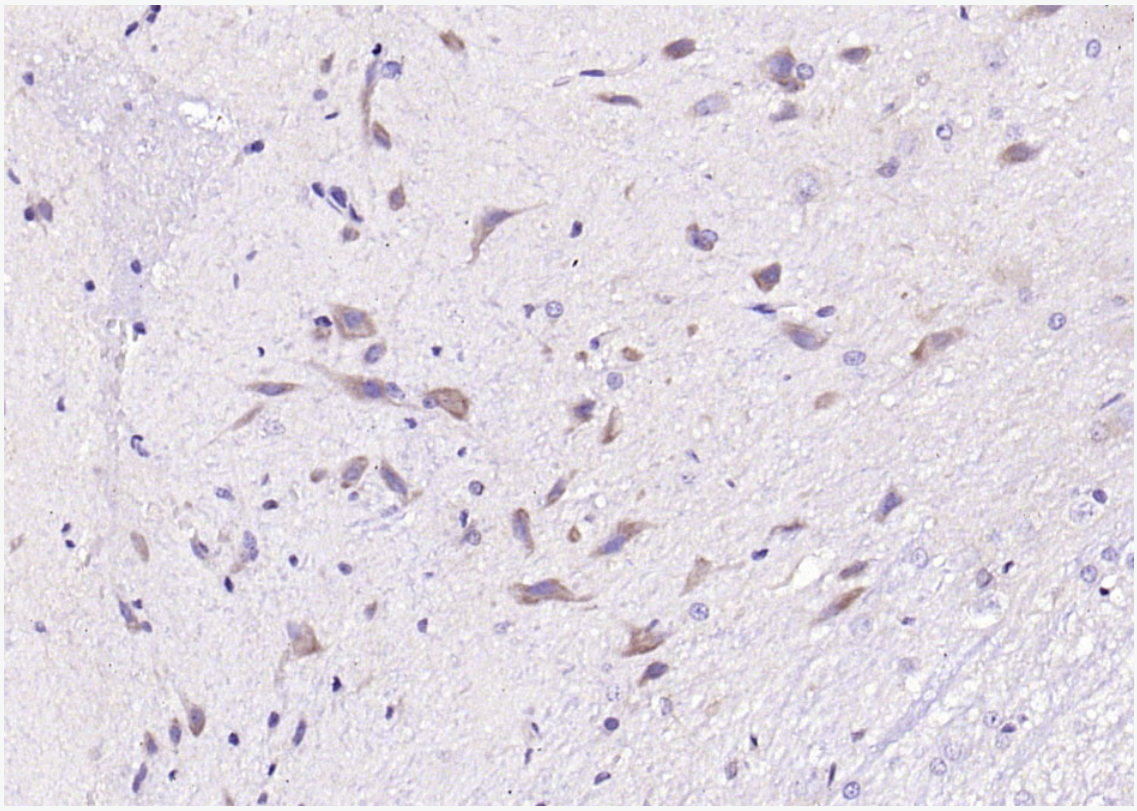
Predicted band size: 47 kDa

Observed band size: 45 kDa



Paraformaldehyde-fixed, paraffin embedded (human myocardium); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (PDK4) Polyclonal Antibody, Unconjugated

(SL0682R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.



Paraformaldehyde-fixed, paraffin embedded (rat brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (PDK4) Polyclonal Antibody, Unconjugated (SL0682R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.

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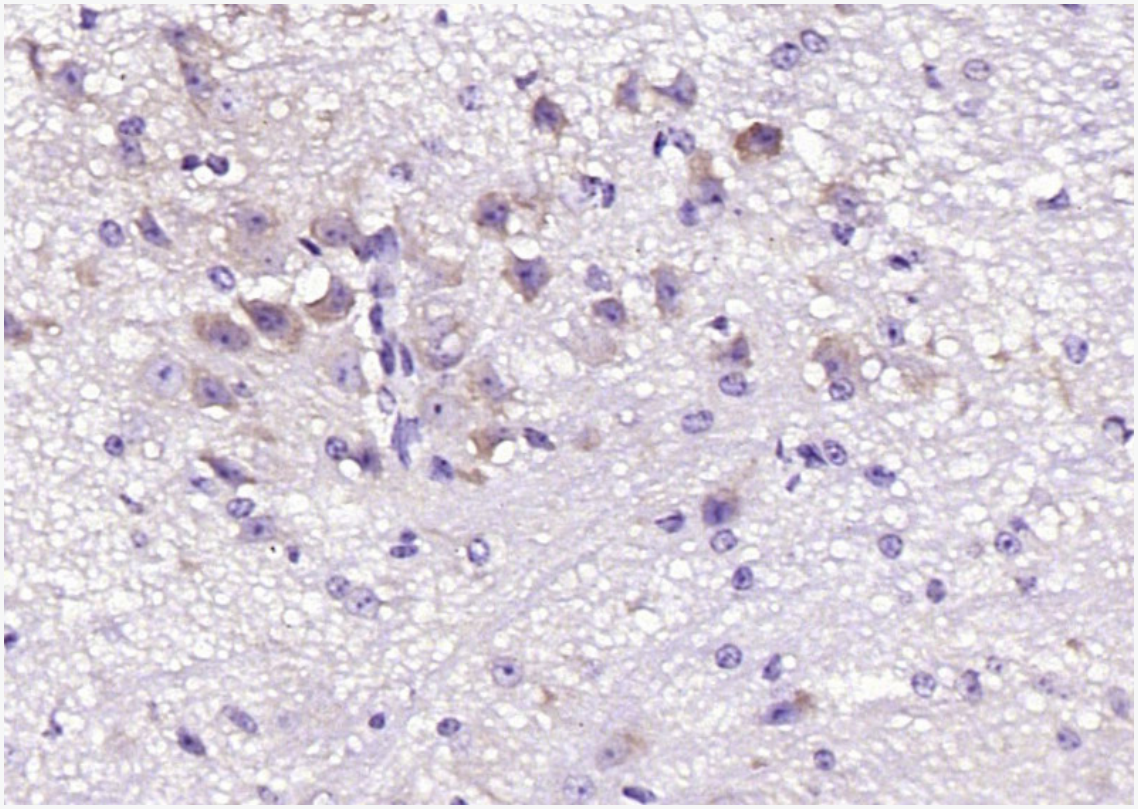

Paraformaldehyde-fixed, paraffin embedded (mouse brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (PDK4) Polyclonal Antibody, Unconjugated (SL0682R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.

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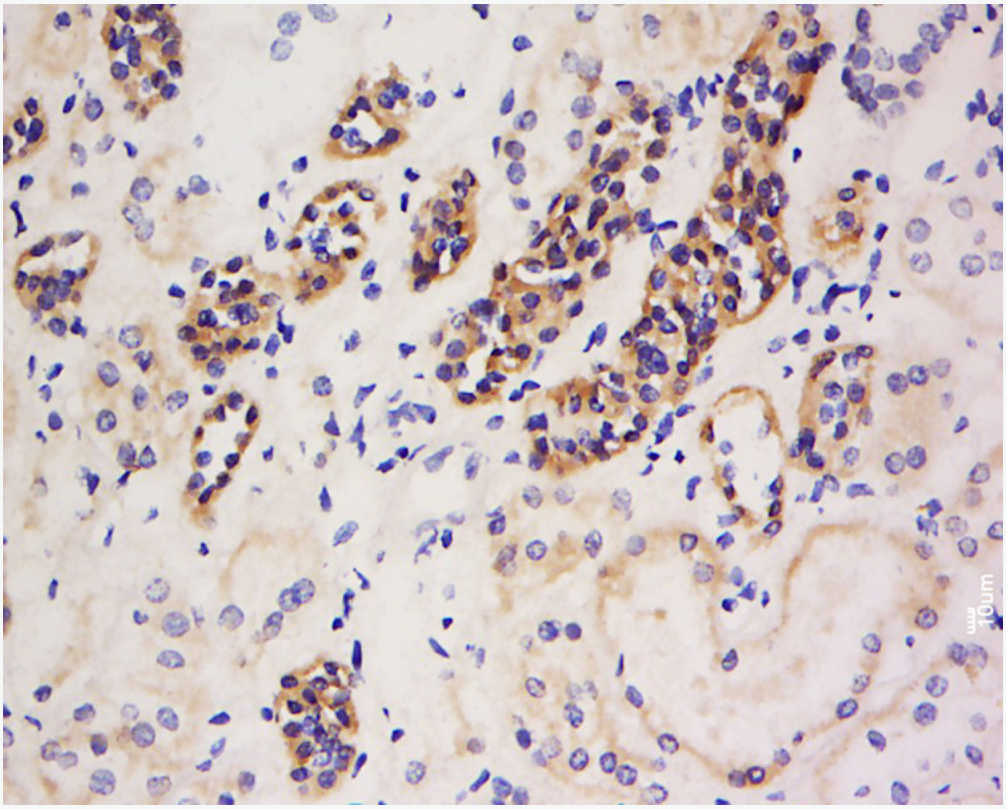

Tissue/cell: Human kidney tissue; 4% Paraformaldehyde-fixed and paraffin-embedded; Antigen retrieval: citrate buffer (1M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 20 min;

Incubation: Anti-PDK4 Polyclonal Antibody, Unconjugated(SL0682R) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining