

Anti-PCK2 Antibody Picoband™ (monoclonal, 3F7)
Catalog # ABO14980**Specification****Anti-PCK2 Antibody Picoband™ (monoclonal, 3F7) - Product Information**

Application	WB, IHC, IF, ICC, FC
Primary Accession	Q16822
Host	Mouse
Isotype	Mouse IgG2b
Reactivity	Rat, Human, Mouse, Monkey
Clonality	Monoclonal
Format	Lyophilized

Description

Anti-PCK2 Antibody Picoband™ (monoclonal, 3F7) . Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human, Monkey, Mouse, Rat.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-PCK2 Antibody Picoband™ (monoclonal, 3F7) - Additional Information

Gene ID 5106

Other Names

Phosphoenolpyruvate carboxykinase [GTP], mitochondrial, PEPCK-M, 4.1.1.32, Phosphoenolpyruvate carboxykinase 2, mitochondrial, mtPCK2, PCK2 ([HGNC:8725](http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=8725)), PEPCK2

Calculated MW

71 kDa KDa

Application Details

Western blot, 0.1-0.25 µg/ml, Human, Mouse, Rat, Monkey
Immunohistochemistry (Paraffin-embedded Section), 2-5 µg/ml, Human
Immunocytochemistry/Immunofluorescence, 5 µg/ml, Human
Flow Cytometry, 1-3 µg/1x10⁶ cells, Human

Contents

Each vial contains 4mg Trehalose, 0.9mg NaCl and 0.2mg Na₂HPO₄.

Immunogen

E.coli-derived human PCK2 recombinant protein (Position: M1-M640).

Purification

Immunogen affinity purified.

Storage

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.

Anti-PCK2 Antibody Picoband™ (monoclonal, 3F7) - Protein Information

Name PCK2 ([HGNC:8725](#))

Synonyms PEPCCK2

Function

Mitochondrial phosphoenolpyruvate carboxykinase that catalyzes the conversion of oxaloacetate (OAA) to phosphoenolpyruvate (PEP), the rate-limiting step in the metabolic pathway that produces glucose from lactate and other precursors derived from the citric acid cycle (PubMed: [28955899](http://www.uniprot.org/citations/28955899)). Can play an active role in glyceroneogenesis and gluconeogenesis (PubMed: [28955899](http://www.uniprot.org/citations/28955899)).

Cellular Location

Mitochondrion.

Tissue Location

Widely expressed..

Anti-PCK2 Antibody Picoband™ (monoclonal, 3F7) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)

Anti-PCK2 Antibody Picoband™ (monoclonal, 3F7) - Images

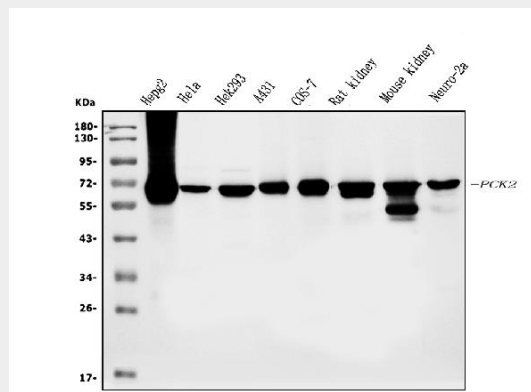


Figure 1. Western blot analysis of PCK2 using anti-PCK2 antibody (M04772-2). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving

gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.

Lane 1: human HEPG2 whole cell lysates,

Lane 2: human Hela whole cell lysates,

Lane 3: human HEK293 whole cell lysates,

Lane 4: human A431 whole cell lysates,

Lane 5: monkey COS-7 whole cell lysates,

Lane 6: rat kidney tissue lysates,

Lane 7: mouse kidney tissue lysates,

Lane 8: mouse Neuro-2a whole cell lysates.

After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-PCK2 antigen affinity purified monoclonal antibody (Catalog # M04772-2) at 0.25 $\mu\text{g}/\text{mL}$ overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for PCK2 at approximately 71KD. The expected band size for PCK2 is at 71KD.

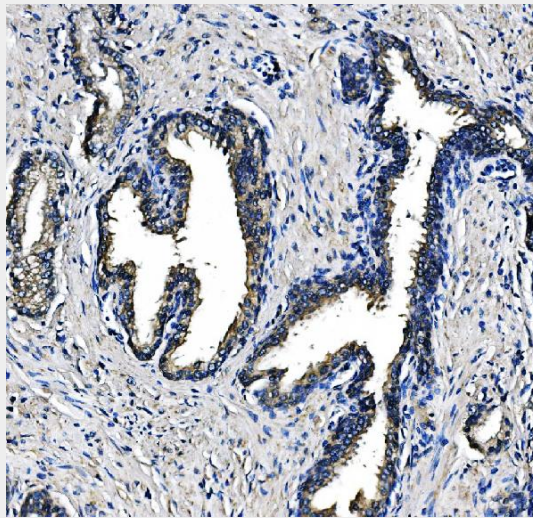


Figure 2. IHC analysis of PCK2 using anti-PCK2 antibody (M04772-2).

PCK2 was detected in paraffin-embedded section of human prostate cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 $\mu\text{g}/\text{ml}$ mouse anti-PCK2 Antibody (M04772-2) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

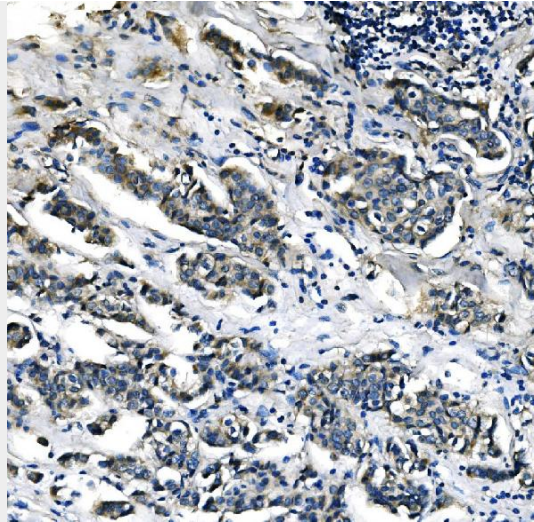


Figure 3. IHC analysis of PCK2 using anti-PCK2 antibody (M04772-2).

PCK2 was detected in paraffin-embedded section of human breast cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 μ g/ml mouse anti-PCK2 Antibody (M04772-2) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

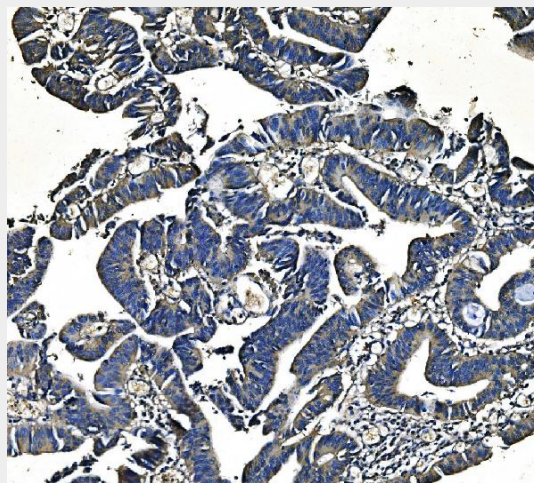


Figure 4. IHC analysis of PCK2 using anti-PCK2 antibody (M04772-2).

PCK2 was detected in paraffin-embedded section of human rectal cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 μ g/ml mouse anti-PCK2 Antibody (M04772-2) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

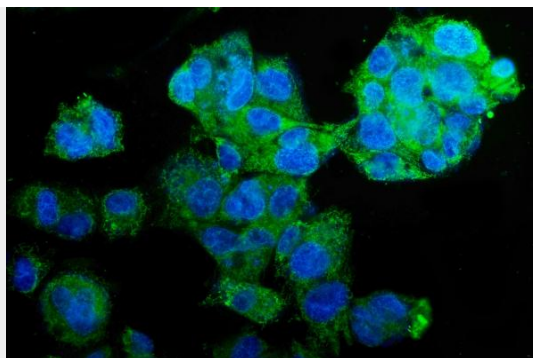


Figure 5. IF analysis of PCK2 using anti-PCK2 antibody (M04772-2). PCK2 was detected in immunocytochemical section of HEPG2 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 µg/mL mouse anti-PCK2 Antibody (M04772-2) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Mouse IgG (BA1126) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

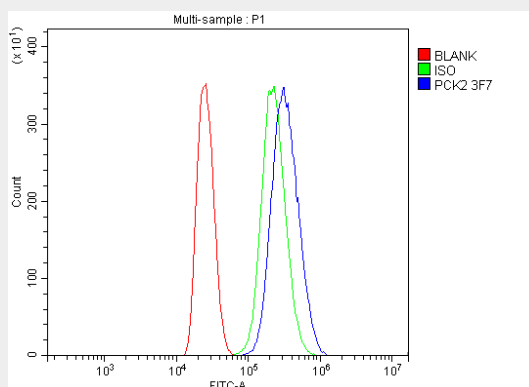


Figure 6. Flow Cytometry analysis of MCF-7 cells using anti-PCK2 antibody (M04772-2). Overlay histogram showing MCF-7 cells stained with M04772-2 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-PCK2 Antibody (M04772-2, 1 µg/1x10⁶ cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10⁶) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

Anti-PCK2 Antibody Picoband™ (monoclonal, 3F7) - Background

Phosphoenolpyruvate carboxykinase 2, mitochondrial (PCK2, PEPCK-M), is an isozyme of phosphoenolpyruvate carboxykinase (PCK, PEPCK) that in humans is encoded by the PCK2 gene. It is mapped to 14q11.2-q12. This gene encodes a mitochondrial enzyme that catalyzes the conversion of oxaloacetate to phosphoenolpyruvate in the presence of guanosine triphosphate (GTP). A cytosolic form of this protein is encoded by a different gene and is the key enzyme of gluconeogenesis in the liver. Alternatively spliced transcript variants have been described.