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# PCK2 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8094a

## Product Information

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| **Application** | WB, IHC-P, IF, E |
| **Primary Accession** | Q16822 |
| **Reactivity** | Human |
| **Predicted** | Bovine, Rabbit |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | Rabbit IgG |
| **Clone Names** | RB3640 |
| **Calculated MW** | 70699 |
| **Antigen Region** | 24-54 |

## Additional Information

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| **Gene ID** | 5106 |
| **Other Names** | Phosphoenolpyruvate carboxykinase [GTP], mitochondrial, PEPCK-M, PCK2, PEPCK2 |
| **Target/Specificity** | This PCK2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 24-54 amino acids from the N-terminal region of human PCK2. |
| **Dilution** | WB~~1:1000 IHC-P~~1:100~500 IF~~1:10~50 E~~Use at an assay dependent concentration. |
| **Format** | Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS. |
| **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** | PCK2 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **Name** | PCK2 ( HGNC:8725) |
| **Synonyms** | PEPCK2 |

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| **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). Can play an active role in glyceroneogenesis and gluconeogenesis (PubMed:28955899). In lipogenic cells such as adipocytes, it generates PEP via the mitochondrial pyruvate-to-PEP bypass, driving the PEP flux required for cytosolic glycerol 3- phosphate and triglyceride synthesis (By similarity). Also acts as a serine/threonine-protein kinase: phosphorylates and activates ACSL4, thereby promoting ferroptosis (PubMed:38720107). |
| **Cellular Location** | Mitochondrion |
| **Tissue Location** | Widely expressed.. |

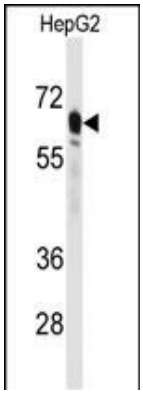
## Background

This gene encodes a member of the phosphoenolpyruvate carboxykinase (GTP) family. The protein is a mitochondrial enzyme that catalyzes the conversion of oxaloacetate to phosphoenolpyruvate in the presence of GTP. A cytosolic form encoded by a different gene has also been characterized and is the key enzyme of gluconeogenesis in the liver. The encoded protein may serve a similar function, although it is constitutively expressed and not modulated by hormones such as glucagon and insulin that regulate the cytosolic form. Alternatively spliced transcript variants have been described.

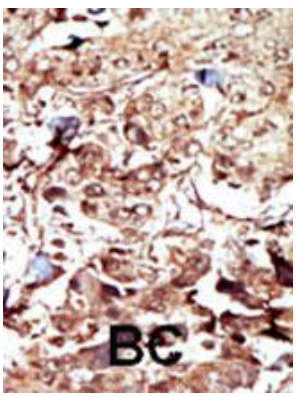
## References

Strausberg, R.L., et al., Proc. Natl. Acad. Sci. U.S.A. 99(26):16899-16903 (2002).
Modaressi, S., et al., Biochem. J. 333 (Pt 2), 359-366 (1998).
Modaressi, S., et al., Biochem. J. 315 (Pt 3), 807-814 (1996).

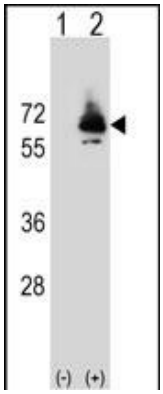
## Images



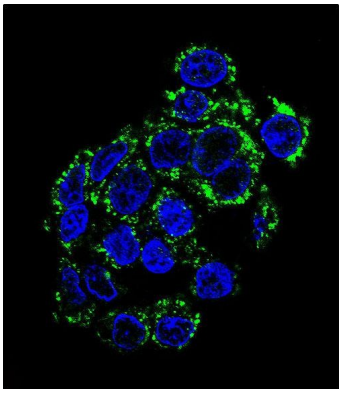

Western blot analysis of anti-PCK2 Antibody (N-term) (Cat.#AP8094a) in HepG2 cell line lysates (35ug/lane). PCK2 (arrow) was detected using the purified Pab.




Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.




Western blot analysis of PCK2 (arrow) using rabbit polyclonal PCK2 Antibody (Q39) (Cat. #AP8094a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the PCK2 gene.



Confocal immunofluorescent analysis of PCK2 Antibody (N-term)(Cat#AP8094a) with HepG2 cell followed by Alexa Fluor 488-conjugated goat anti-rabbit lgG (green).DAPI was used to stain the cell nuclear (blue).

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