

## **Anti-PGK1 Antibody**

**Catalog # ABO11352** 

## **Specification**

# **Anti-PGK1 Antibody - Product Information**

Application WB, IHC-P
Primary Accession P00558
Host Rabbit

Reactivity Human, Mouse, Rat

Clonality Polyclonal Lyophilized

**Description** 

Rabbit IgG polyclonal antibody for Phosphoglycerate kinase 1(PGK1) detection. Tested with WB, IHC-P in Human; Mouse; Rat.

#### Reconstitution

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

## **Anti-PGK1 Antibody - Additional Information**

**Gene ID 5230** 

#### **Other Names**

Phosphoglycerate kinase 1, 2.7.2.3, Cell migration-inducing gene 10 protein, Primer recognition protein 2, PRP 2, PGK1, PGKA

## Calculated MW 44615 MW KDa

### **Application Details**

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 μg/ml, Human, Rat, Mouse, By Heat<br/>br>Western blot, 0.1-0.5 μg/ml, Human, Rat, Mouse<br/>cbr>

### **Subcellular Localization**

Cytoplasm.

#### **Protein Name**

Phosphoglycerate kinase 1

#### **Contents**

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.

#### **Immunogen**

A synthetic peptide corresponding to a sequence in the middle region of human PGK1(166-180aa FGTAHRAHSSMVGVN), identical to the related rat and mouse sequences.

## **Purification**

Immunogen affinity purified.



## **Cross Reactivity**

No cross reactivity with other proteins

Storage

At -20°C for one year. After r°Constitution, 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.

#### **Sequence Similarities**

Belongs to the phosphoglycerate kinase family.

## **Anti-PGK1 Antibody - Protein Information**

Name PGK1

**Synonyms PGKA** 

#### **Function**

Catalyzes one of the two ATP producing reactions in the glycolytic pathway via the reversible conversion of 1,3- diphosphoglycerate to 3-phosphoglycerate (PubMed:<a href="http://www.uniprot.org/citations/30323285" target="\_blank">30323285</a>, PubMed:<a href="http://www.uniprot.org/citations/7391028" target=" blank">7391028</a>). Both L- and Dforms of purine and pyrimidine nucleotides can be used as substrates, but the activity is much lower on pyrimidines (PubMed:<a href="http://www.uniprot.org/citations/18463139" target=" blank">18463139</a>). In addition to its role as a glycolytic enzyme, it seems that PGK1 acts as a polymerase alpha cofactor protein (primer recognition protein) (PubMed: <a href="http://www.uniprot.org/citations/2324090" target="\_blank">2324090</a>). Acts as a protein kinase when localized to the mitochondrion where it phosphorylates pyruvate dehydrogenase kinase PDK1 to inhibit pyruvate dehydrogenase complex activity and suppress the formation of acetyl- coenzyme A from pyruvate, and consequently inhibit oxidative phosphorylation and promote glycolysis (PubMed:<a href="http://www.uniprot.org/citations/26942675" target=" blank">26942675</a>, PubMed:<a href="http://www.uniprot.org/citations/36849569" target="blank">36849569</a>). May play a role in sperm motility (PubMed:<a href="http://www.uniprot.org/citations/26677959" target="\_blank">26677959</a>).

#### **Cellular Location**

Cytoplasm, cytosol. Mitochondrion matrix. Note=Hypoxic conditions promote mitochondrial targeting (PubMed:26942675). Targeted to the mitochondrion following phosphorylation by MAPK1/ERK2, cis-trans isomerization by PIN1, and binding to mitochondrial circRNA mcPGK1 (PubMed:36849569).

#### **Tissue Location**

Mainly expressed in spermatogonia. Localized on the principle piece in the sperm (at protein level). Expression significantly decreased in the testis of elderly men

#### **Anti-PGK1 Antibody - Protocols**

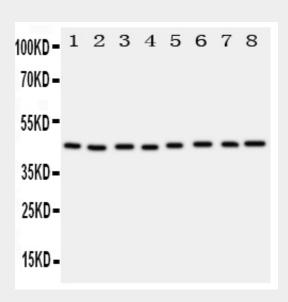
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot

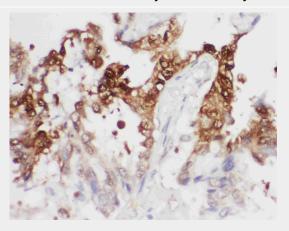


- Immunohistochemistry
- Immunofluorescence
- <u>Immunoprecipitation</u>
- Flow Cytomety
- Cell Culture

## Anti-PGK1 Antibody - Images



Anti-PGK1 antibody, ABO11352, Western blottingLane 1: Rat Liver Tissue LysateLane 2: Rat Brain Tissue LysateLane 3: Rat Lung Tissue LysateLane 4: A431 Cell LysateLane 5: COLO320 Cell LysateLane 6: HELA Cell LysateLane 7: A549 Cell LysateLane 8: JURKAT Cell Lysate



Anti-PGK1 antibody, ABO11352, IHC(P)IHC(P): Human Lung Cancer Tissue

### **Anti-PGK1 Antibody - Background**

PGK1 (Phosphoglycerate Kinase 1), also known as PGKA, is an enzyme that in humans is encoded by the PGK1 gene. The protein encoded by this gene is a glycolytic enzyme that catalyzes the conversion of 1,3-diphosphoglycerate to 3-phosphoglycerate. The encoded protein may also act as a cofactor for polymerase alpha. Additionally, this protein is secreted by tumor cells where it participates in angiogenesis by functioning to reduce disulfide bonds in the serine protease, plasmin, which consequently leads to the release of the tumor blood vessel inhibitor angiostatin. And the encoded protein has been identified as a moonlighting protein based on its ability to perform mechanistically distinct functions. Deficiency of the enzyme is associated with a wide range of clinical phenotypes hemolytic anemia and neurological impairment. Pseudogenes of this





gene have been defined on chromosomes 19, 21 and the X chromosome.