

PGK1 Antibody (Center S320)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AW5171

Specification

PGK1 Antibody (Center S320) - Product Information

Application IHC-P, WB,E Primary Accession P00558

Other Accession
Reactivity
Predicted

O60HD8, Q5J7W1
Human, Mouse
Monkey

Predicted Monkey
Host Rabbit
Clonality Polyclonal

Calculated MW H=45;M=45;Rat=45 KDa

Isotype Rabbit IgG
Antigen Source HUMAN

PGK1 Antibody (Center S320) - Additional Information

Gene ID 5230

Antigen Region

305-334

Other Names

PGK1; PGKA; Phosphoglycerate kinase 1; Cell migration-inducing gene 10 protein; Primer recognition protein 2

Dilution

IHC-P~~1:10~50 WB~~1:1000

Target/Specificity

This PGK1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 305-334 amino acids from the Central region of human PGK1.

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

PGK1 Antibody (Center S320) is for research use only and not for use in diagnostic or therapeutic procedures.

PGK1 Antibody (Center S320) - 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 $href="http://www.uniprot.org/citations/30323285" target="_blank">30323285, PubMed: 7391028). Both L- and D$ forms of purine and pyrimidine nucleotides can be used as substrates, but the activity is much lower on pyrimidines (PubMed:18463139). In addition to its role as a glycolytic enzyme, it seems that PGK1 acts as a polymerase alpha cofactor protein (primer recognition protein) (PubMed: 2324090). 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:26942675, PubMed:36849569). May play a role in sperm motility (PubMed: 26677959).

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

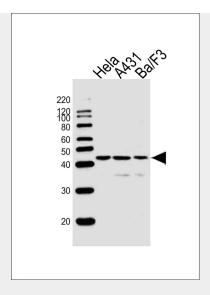
PGK1 Antibody (Center S320) - Protocols

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

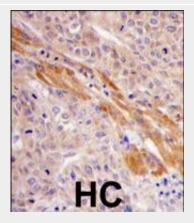
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PGK1 Antibody (Center S320) - Images





Western blot analysis of lysates from Hela,A431,mouse Ba/F3 cell line (from left to right), using PGK1 Antibody (S320)(Cat. #AW5171). AW5171 was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody.Lysates at 20ug per lane.



Formalin-fixed and paraffin-embedded human hepatocarcinoma tissue reacted with PGK1 Antibody (Center S320)(Cat.#AW5171), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

PGK1 Antibody (Center S320) - Background

Also known as ATP:3-phosphoglycerate 1-phosphotransferase, this major enzyme in glycolysis catalyzes the reversible conversion of 1,3-diphosphoglycerate to 3-phosphoglycerate, generating one molecule of ATP. Phosphoglycerate kinase not only functions in glycolysis but is secreted by tumor cells and is proposed to participate in the angiogenic process as a disulfide reductase. Mutations in PGK1 may be associated with hemolytic anemia.

PGK1 Antibody (Center S320) - References

Shetty, S., et al., Am. J. Respir. Cell Mol. Biol. 31(1):100-106 (2004). Daly, E.B., et al., Biochim. Biophys. Acta 1691(1):17-22 (2004). Daly, E.B., et al., Int. J. Biol. Markers 19(2):170-172 (2004). Saito, Y., et al., Biochem. Biophys. Res. Commun. 314(2):396-402 (2004). Krishnan, P., et al., J. Biol. Chem. 278(38):36726-36732 (2003).