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KD-Validated Anti-Phosphoglycerate Kinase 1 Mouse Monoclonal Antibody

Mouse monoclonal antibody
Catalog # AGI1789

Specification

KD-Validated Anti-Phosphoglycerate Kinase 1 Mouse Monoclonal Antibody - Product Information

Application	**WB, ICC**
Primary Accession	P00558
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Isotype	**Mouse IgG**
Calculated MW	**Predicted, 45 kDa, observed, 44 kDa KDa**
Gene Name	**PGK1**
Aliases	**PGK1; Phosphoglycerate Kinase 1; Cell Migration-Inducing Gene 10 Protein; Primer Recognition Protein; EC 2.7.2.3; PRP; PGKA; Epididymis Secretory Sperm Binding Protein Li 68p; HEL-S-68p; MIG10**
Immunogen	**Recombinant protein of human PGK1**

KD-Validated Anti-Phosphoglycerate Kinase 1 Mouse Monoclonal Antibody - Additional Information

Gene ID	**5230**

Other Names
Phosphoglycerate kinase 1, 2.7.11.1, 2.7.2.3, Cell migration-inducing gene 10 protein, Primer recognition protein 2, PRP 2, PGK1, PGKA

KD-Validated Anti-Phosphoglycerate Kinase 1 Mouse Monoclonal 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: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).

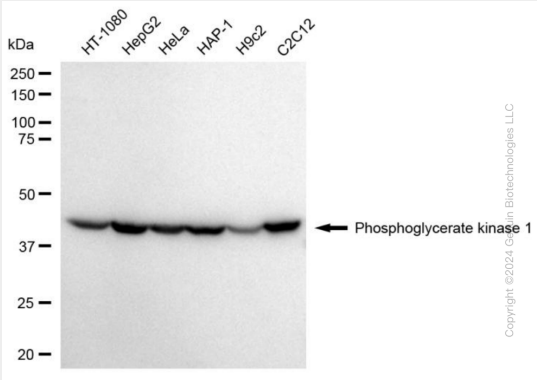
Tissue Location
Mainly expressed in spermatogonia. Localized on the principle piece in the sperm (at protein level). Expression significantly decreased in the testis of elderly men

KD-Validated Anti-Phosphoglycerate Kinase 1 Mouse Monoclonal Antibody - 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

KD-Validated Anti-Phosphoglycerate Kinase 1 Mouse Monoclonal Antibody - Images



Western blotting analysis using anti-Phosphoglycerate kinase 1 antibody (Cat#AGI1789). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-Phosphoglycerate kinase 1 antibody (Cat#AGI1789, 1:5,000) and HRP-conjugated goat anti-mouse secondary antibody respectively.

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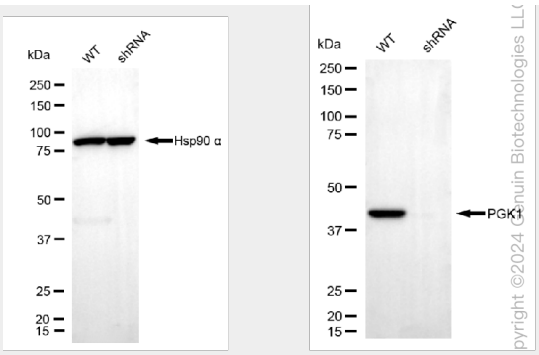
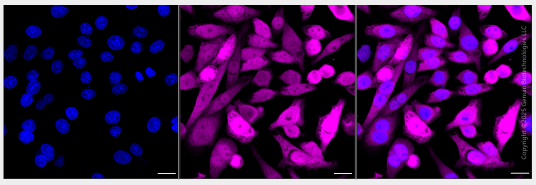


Western blotting analysis using anti-phosphoglycerate kinase 1 antibody (Cat#AGI1789). Phosphoglycerate kinase 1 expression in wild-type (WT) and phosphoglycerate kinase 1 (PGK1) shRNA knockdown (KD) HeLa cells with 20 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-phosphoglycerate kinase 1 antibody (Cat#AGI1789, 1:5,000) and HRP-conjugated goat anti-mouse secondary antibody respectively.



Immunocytochemical staining of HepG2 cells with anti-Phosphoglycerate kinase 1 antibody(Cat#AGI1789, 1:1,000). Nuclei were stained blue with DAPI; Phosphoglycerate kinase 1 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: High. Scale bar, 20 µm.