

**PGAM5 (Long Isoform) Antibody**

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**For Research Use Only. Not for Use in Diagnostic Procedures.**

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Mk	Endogenous	28, 30	Rabbit	#Q96HS1	19211

**Product Usage Information****Application**

Western Blotting

**Dilution**

1:1000

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. *Do not aliquot the antibody.*

**Specificity/Sensitivity**

PGAM5 (Long Isoform) Antibody recognizes endogenous levels of total PGAM5 long isoform protein. This antibody specifically recognizes the PGAM5 long isoform (UniProt #Q96HS1-1) and does not recognize the PGAM5 short isoform (UniProt #Q96HS1-2).

**Source / Purification**

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human PGAM5 long isoform (UniProt #Q96HS1-1). Antibodies are purified by protein A and peptide affinity chromatography.

**Background**

Phosphoglycerate mutase family 5 (PGAM5) is a mitochondrial serine/threonine protein phosphatase (1,2). PGAM5 is required for necrosis induced by TNF-α or reactive oxygen species (2). In addition, PGAM5 dephosphorylates FUNDC1 to induce mitophagy under mitochondrial stresses (3). PGAM5 is also essential for RIPK1-mediated mitophagy activation during extracellular matrix (ECM) detachment of cancer cells (4). Furthermore, PGAM5 is cleaved by the protease presenilin-associated rhomboid-like protein (PARL) in response to mitochondrial stresses (such as induced by carbonyl cyanide *m*-chlorophenylhydrazone (CCCP) treatment). The cleaved PGAM5, released from the mitochondrial membrane, dephosphorylates β-catenin in the cytosol leading to its stabilization. Increased levels of β-catenin stimulate mitochondrial biogenesis (5).

**Background References**

1. Takeda, K. et al. (2009) *Proc Natl Acad Sci U S A* 106, 12301-5.
2. Wang, Z. et al. (2012) *Cell* 148, 228-43.
3. Chen, G. et al. (2014) *Mol Cell* 54, 362-77.
4. Hawk, M.A. et al. (2018) *Nat Cell Biol* 20, 272-84.
5. Bernkopf, D.B. et al. (2018) *J Cell Biol* 217, 1383-94.

**Species Reactivity**

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

**Western Blot Buffer**

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

**Applications Key**

**W:** Western Blotting

**Cross-Reactivity Key**

**H:** Human **M:** Mouse **R:** Rat **Mk:** Monkey

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