SANTA CRUZ BIOTECHNOLOGY, INC.

PGAM5 (C-1): sc-515881

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Members of the PGAM (phosphoglycerate mutase) family of proteins are important components of glucose and 2,3-BPGA (2,3-bisphosphoglycerate) metabolism. They are responsible for catalyzing the transfer of phospho groups between the carbon atoms of phosphoglycerates. PGAM5 (phosphoglycerate mutase family member 5), also known as Bcl-x_L-binding protein v68, is a 289 amino acid protein belonging to the BPG-dependent PGAM subfamily. PGAM5 exists as two isoforms produced by alternative splicing events, with isoform two localized to the cytoplasm and isoform one localized to both the cytoplasm and the nucleus. PGAM5 forms a dimer and has been found to interact with Bcl-$x_{S/L}$ and Keap1.

REFERENCES

1. Zhang, J., et al. 2001. Mouse phosphoglycerate mutase M and B isozymes: cDNA cloning, enzyme activity assay and mapping. Gene 264: 273-279.
2. Hammond, P.W., et al. 2001. *In vitro* selection and characterization of Bcl-x_L-binding proteins from a mix of tissue-specific mRNA display libraries. J. Biol. Chem. 276: 20898-20906.
3. Jin, J., et al. 2004. Proteomic, functional, and domain-based analysis of *in vivo* 14-3-3 binding proteins involved in cytoskeletal regulation and cellular organization. Curr. Biol. 14: 1436-1450.
4. de Atauri, P., et al. 2005. Characterization of the first described mutation of human red blood cell phosphoglycerate mutase. Biochim. Biophys. Acta 1740: 403-410.
5. Saavedra, E., et al. 2005. Glycolysis in *Entamoeba histolytica.* Biochemical characterization of recombinant glycolytic enzymes and flux control analysis. FEBS J. 272: 1767-1783.
6. Lo, S.C. and Hannink, M. 2006. PGAM5, a Bcl-x_L-interacting protein, is a novel substrate for the redox-regulated Keap1-dependent ubiquitin ligase complex. J. Biol. Chem. 281: 37893-37903.

CHROMOSOMAL LOCATION

Genetic locus: PGAM5 (human) mapping to 12q24.33; Pgam5 (mouse) mapping to 5 F.

SOURCE

PGAM5 (C-1) is a mouse monoclonal antibody raised against amino acids 115-239 (D196) mapping near the C-terminus of PGAM5 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

PGAM5 (C-1) is recommended for detection of PGAM5 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PGAM5 siRNA (h): sc-96246, PGAM5 siRNA (m): sc-152184, PGAM5 shRNA Plasmid (h): sc-96246-SH, PGAM5 shRNA Plasmid (m): sc-152184-SH, PGAM5 shRNA (h) Lentiviral Particles: sc-96246-V and PGAM5 shRNA (m) Lentiviral Particles: sc-152184-V.

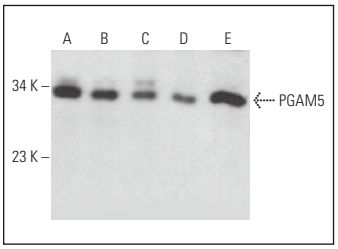
Molecular Weight of PGAM5: 32 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, Jurkat whole cell lysate: sc-2204 or RT-4 whole cell lysate: sc-364257.

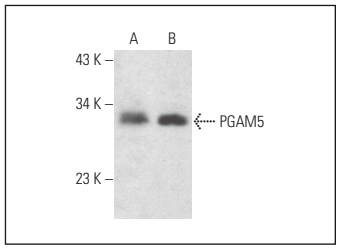
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PGAM5 (C-1): sc-515881. Western blot analysis of PGAM5 expression in Jurkat (**A**), K-562 (**B**), MCF7 (**C**), RT-4 (**D**) and MOLT-4 (**E**) whole cell lysates.



PGAM5 (C-1): sc-515881. Western blot analysis of PGAM5 expression in WEHI-231 (**A**) and NBT-II (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Nasirzadeh, M., et al. 2023. Alantolactone triggers oxeiptosis in human ovarian cancer cells via Nrf2 signaling pathway. Biochem. Biophys. Rep. 35: 101537.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.