SANTA CRUZ BIOTECHNOLOGY, INC.

PGAM5 (A-3): sc-515880

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.

CHROMOSOMAL LOCATION

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

SOURCE

PGAM5 (A-3) 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_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PGAM5 (A-3) is available conjugated to agarose (sc-515880 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515880 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515880 PE), fluorescein (sc-515880 FITC), Alexa Fluor® 488 (sc-515880 AF488), Alexa Fluor® 546 (sc-515880 AF546), Alexa Fluor® 594 (sc-515880 AF594) or Alexa Fluor® 647 (sc-515880 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515880 AF680) or Alexa Fluor® 790 (sc-515880 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

PGAM5 (A-3) 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.

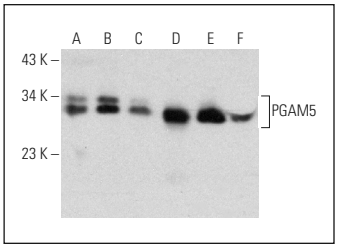
Molecular Weight of PGAM5: 32 kDa.

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

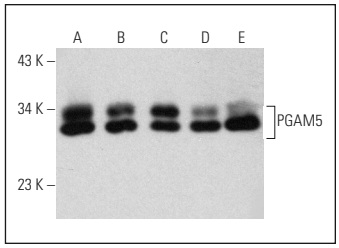
RECOMMENDED SUPPORT REAGENTS

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 (A-3): sc-515880. Western blot analysis of PGAM5 expression in JC (**A**), AMJ2-C8 (**B**), M1 (**C**), WEHI-231 (**D**) and NBT-II (**E**) whole cell lysates and rat ovary tissue extract (**F**).



PGAM5 (A-3) : sc-515880. Western blot analysis of PGAM5 expression in Jurkat (**A**), K-562 (**B**), MCF7 (**C**), RT-4 (**D**) and MOLT-4 (**E**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Zhu, Y., et al. 2019. Dynamic regulation of ME1 phosphorylation and acetylation affects lipid metabolism and colorectal tumorigenesis. Mol. Cell 77: 138-149.
2. Yu, B., et al. 2020. Mitochondrial phosphatase PGAM5 modulates cellular senescence by regulating mitochondrial dynamics. Nat. Commun. 11: 2549.
3. Liang, S., et al. 2022. Mitochondrion-localized SND1 promotes mitophagy and liver cancer progression through PGAM5. Front. Oncol. 12: 857968.
4. Luo, J., et al. 2022. Microsporidia promote host mitochondrial fragmentation by modulating DRP1 phosphorylation. Int. J. Mol. Sci. 23: 7746.
5. Khan, I., et al. 2023. Piceatannol promotes neuroprotection by inducing mitophagy and mitobiogenesis in the experimental diabetic peripheral neuropathy and hyperglycemia-induced neurotoxicity. Int. Immunopharmacol. 116: 109793.

RESEARCH USE

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

PROTOCOLS

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