

# PGLS (G-7): sc-398833

## BACKGROUND

PGLS (6-phosphogluconolactonase), also known as 6PGL, is a 258 amino acid protein that belongs to the glucosamine/galactosamine-6-phosphate isomerase family and the 6-phosphogluconolactonase subfamily. Localizing to cytoplasm, PGLS is a particularly active enzyme that catalyzes the hydrolysis of 6-phosphogluconolactone to 6-phosphogluconate, which is the second step of the pentose phosphate pathway. Highly conserved, PGLS shares 33% to 37% sequence similarity with yeast Sol1, Sol2, Sol3 and Sol4, 26% similarity with the C-terminal portion of human H6PD, 20% to 25% similarity with bacterial devB proteins and 17% similarity with human GNPDA1. PGLS erythrocyte deficiency, an autosomal dominant disorder, in conjunction with G6PD deficiency, may play a role in hemolytic anemia. The gene that encodes PGLS maps to human chromosome 19p13.11.

## CHROMOSOMAL LOCATION

Genetic locus: PGLS (human) mapping to 19p13.11.

## SOURCE

PGLS (G-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 96-123 within an internal region of PGLS of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PGLS (G-7) is available conjugated to agarose (sc-398833 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398833 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398833 PE), fluorescein (sc-398833 FITC), Alexa Fluor® 488 (sc-398833 AF488), Alexa Fluor® 546 (sc-398833 AF546), Alexa Fluor® 594 (sc-398833 AF594) or Alexa Fluor® 647 (sc-398833 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398833 AF680) or Alexa Fluor® 790 (sc-398833 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398833 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

PGLS (G-7) is recommended for detection of PGLS of 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 PGLS siRNA (h): sc-97435, PGLS shRNA Plasmid (h): sc-97435-SH and PGLS shRNA (h) Lentiviral Particles: sc-97435-V.

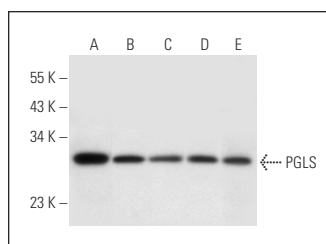
Molecular Weight of PGLS: 28 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, CCRF-CEM cell lysate: sc-2225 or Ramos cell lysate: sc-2216.

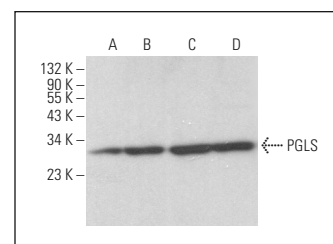
## RECOMMENDED SUPPORT REAGENTS

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



PGLS (G-7): sc-398833. Western blot analysis of PGLS expression in CCRF-CEM (A), Jurkat (B), Ramos (C) and HeLa (D) whole cell lysates and human spleen tissue extract (E).



PGLS (G-7): sc-398833. Western blot analysis of PGLS expression in HeLa (A), NAMALWA (B), BJAB (C) and Raji (D) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Ma, X., et al. 2017. Polo-like kinase 1 coordinates biosynthesis during cell cycle progression by directly activating pentose phosphate pathway. *Nat. Commun.* 8: 1506.
- Bodega, G., et al. 2018. Young and especially senescent endothelial microvesicles produce NADPH: the fuel for their antioxidant machinery. *Oxid. Med. Cell. Longev.* 2018: 3183794.
- Gao, X., et al. 2019. γ-6-phosphogluconolactone, a byproduct of the oxidative pentose phosphate pathway, contributes to AMPK activation through inhibition of PP2A. *Mol. Cell* 76: 857-871.e9.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

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