SANTA CRUZ BIOTECHNOLOGY, INC.

PGLS (S-20): sc-243779

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.

REFERENCES

1. Kupor, S.R. and Fraenkel, D.G. 1969. 6-phosphogluconolactonase mutants of *Escherichia coli* and a maltose blue gene. J. Bacteriol. 100: 1296-1301.
2. Kupor, S.R. and Fraenkel, D.G. 1972. Glucose metabolism in 6 phosphogluconolactonase mutants of *Escherichia coli*. J. Biol. Chem. 247: 1904-1910.
3. Beutler, E., et al. 1985. 6-Phosphogluconolactonase deficiency, a hereditary erythrocyte enzyme deficiency: possible interaction with glucose-6-phosphate dehydrogenase deficiency. Proc. Natl. Acad. Sci. USA 82: 3876-3878.
4. Collard, F., et al. 1999. Identification of the cDNA encoding human 6-phosphogluconolactonase, the enzyme catalyzing the second step of the pentose phosphate pathway(1). FEBS Lett. 459: 223-226.

CHROMOSOMAL LOCATION

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

SOURCE

PGLS (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PGLS of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-243779 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

PROTOCOLS

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

APPLICATIONS

PGLS (S-20) is recommended for detection of PGLS of human origin by Western Blotting (starting dilution 1:200, 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).

PGLS (S-20) is also recommended for detection of PGLS in additional species, including canine and porcine.

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.

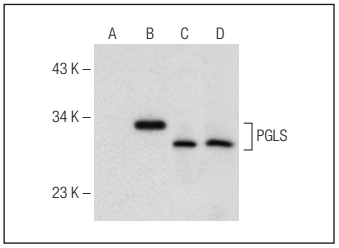
Molecular Weight of PGLS: 28 kDa.

Positive Controls: PGLS (h): 293T Lysate: sc-159885, Jurkat whole cell lysate: sc-2204 or Ramos cell lysate: sc-2216.

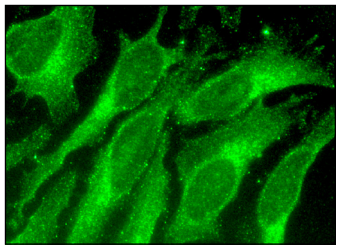
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PGLS (S-20): sc-243779. Western blot analysis of PGLS expression in non-transfected 293T: sc-117752 (**A**), human PGLS transfected 293T: sc-159885 (**B**), Jurkat (**C**) and Ramos (**D**) whole cell lysates.



PGLS (S-20): sc-243779. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization.

RESEARCH USE

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