

PGLS (h): 293T Lysate: sc-159885

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., Kuhl, W. and Gelbart, T. 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., Collet, J.F., Gerin, I., Veiga-da-Cunha, M. and Van Schaftingen, E. 1999. Identification of the cDNA encoding human 6-phosphogluconolactonase, the enzyme catalyzing the second step of the pentose phosphate pathway. FEBS Lett. 459: 223-226.
5. Miclet, E., Stoven, V., Michels, P.A., Opperdoes, F.R., Lallemand, J.Y. and Duffieux, F. 2001. NMR spectroscopic analysis of the first two steps of the pentose-phosphate pathway elucidates the role of 6-phosphogluconolactonase. J. Biol. Chem. 276: 34840-34846.
6. Fratelli, M., Demol, H., Puype, M., Casagrande, S., Eberini, I., Salmona, M., Bonetto, V., Mengozzi, M., Duffieux, F., Miclet, E., Bachi, A., Vandekerckhove, J., Gianazza, E. and Ghezzi, P. 2002. Identification by redox proteomics of glutathionylated proteins in oxidatively stressed human T lymphocytes. Proc. Natl. Acad. Sci. USA 99: 3505-3510.
7. Celis, J.E., Moreira, J.M., Cabezon, T., Gromov, P., Friis, E., Rank, F. and Gromova, I. 2005. Identification of extracellular and intracellular signaling components of the mammary adipose tissue and its interstitial fluid in high risk breast cancer patients: toward dissecting the molecular circuitry of epithelial-adipocyte stromal cell interactions. Mol. Cell. Proteomics 4: 492-522.

CHROMOSOMAL LOCATION

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

PRODUCT

PGLS (h): 293T Lysate represents a lysate of human PGLS transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

PGLS (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive PGLS antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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 for detailed protocols and support products.