

PGLS siRNA (m): sc-152190

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

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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. *FEBS Lett.* 459: 223-226.
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6. Fratelli, M., et al. 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., et al. 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 (mouse) mapping to 8 B3.3.

PRODUCT

PGLS siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PGLS shRNA Plasmid (m): sc-152190-SH and PGLS shRNA (m) Lentiviral Particles: sc-152190-V as alternate gene silencing products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNases and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

PGLS siRNA (m) is recommended for the inhibition of PGLS expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 66 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

PGLS (B-10): sc-514629 is recommended as a control antibody for monitoring of PGLS gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PGLS gene expression knockdown using RT-PCR Primer: PGLS (m)-PR: sc-152190-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.