SANTA CRUZ BIOTECHNOLOGY, INC.

PGM 3 (h): 293 Lysate: sc-110842

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Phosphoglucomutase (PGM), which belongs to the hexose-phosphate mutase family, plays an essential role in glycogen catabolism (glycogenolysis) as well as in the process of glycogen synthesis (glycogenesis). During glycogenolysis, PGM converts glucose-1-phosphate (Glc-1-P) to glucose-6-phosphate (Glc-6-P), thus promoting glycolysis and the pentose phosphate pathway. During glycogenesis, PGM functions in the opposite manner, converting glucose-6-phosphate into glucose-1-phosphate, to facilitate glycogen synthesis. PGM has five structural loci: PGM 1, PGM 2, PGM 3, PGM 4 and Aciculin. These five genetic forms of PGM differ in amino acid sequences but catalyze the same reactions, therefore indicating that they are isozymes. PGM 3 is a 542 amino acid protein expressed ubiquitously with the exception of lung tissue. Highest level of expression is found in heart, liver, pancreas and placenta tissue. All phosphoglucomutases act as monomers and bind one magnesium ion per subunit.

REFERENCES

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4. Pang, H., et al. 2002. Identification of human phosphoglucomutase 3 (PGM 3) as N-acetylglucosamine-phosphate mutase (AGM1). Ann. Hum. Genet. 66: 139-144.
5. Penha, L.L., et al. 2005. Cloning and characterization of the phosphoglucomutase of *Trypanosoma cruzi* and functional complementation of a *Saccharomyces cerevisiae* PGM null mutant. Glycobiology 15: 1359-1367.
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7. Buchanan, J.T., et al. 2005. *Streptococcus iniae* phosphoglucomutase is a virulence factor and a target for vaccine development. Infect. Immun. 73: 6935-6944.
8. Csutora, P., et al. 2006. Lithium induces phosphoglucomutase activity in various tissues of rats and in bipolar patients. Int. J. Neuropsychopharmacol. 9: 613-619.
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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.

CHROMOSOMAL LOCATION

Genetic locus: PGM3 (human) mapping to 6q14.1.

PRODUCT

PGM 3 (h): 293 Lysate represents a lysate of human PGM 3 transfected 293 cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

PGM 3 (h): 293 Lysate is suitable as a Western Blotting positive control for human reactive PGM 3 antibodies. Recommended use: 10-20 µl per lane.

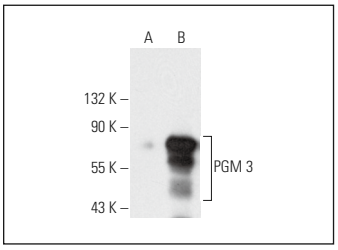
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-tranfected 293 cells.

PGM 3 (EC-13): sc-100410 is recommended as a positive control antibody for Western Blot analysis of enhanced human PGM 3 expression in PGM 3 transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



PGM 3 (EC-13): sc-100410. Western blot analysis of PGM 3 expression in non-transfected: sc-110760 (**A**) and human PGM 3 transfected: sc-110842 (**B**) 293 whole cell lysates.

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.