

G6PD (h2): 293T Lysate: sc-173874

BACKGROUND

Glucose-6-phosphate 1-dehydrogenase (G6PD) plays an important role in the pentose phosphate pathway. It is a member of the glucose-6-phosphate dehydrogenase family of proteins. G6PD is an ubiquitous enzyme that produces pentose sugars for nucleic acid synthesis, but is also involved in carbohydrate degradation, as it is one of the main producers of NADPH reducing power. G6PD has NADP as a cofactor and structural element. It can be found as a homodimer or homotetramer, and is primarily detected in lymphoblasts, granulocytes and sperm. Defects in G6PD can cause chronic non-spherocytic hemolytic anemia (CNSHA), especially in areas in which malaria is an epidemic. Individuals with a high level of G6PD-deficiency are at higher risk of acute hemolytic attacks.

REFERENCES

1. Persico, M.G., et al. 1986. Isolation of human glucose-6-phosphate dehydrogenase (G6PD) cDNA clones: primary structure of the protein and unusual 5' non-coding region. *Nucleic Acids Res.* 14: 2511-2522.
2. Martini, G., et al. 1986. Structural analysis of the X-linked gene encoding human glucose 6-phosphate dehydrogenase. *EMBO J.* 5: 1849-1855.
3. Kayser, L. and Thomsen, J. 2005. Glucose-6-phosphate dehydrogenase activity in monolayer cultures of thyroid epithelial cells: TSH and inhibition of nitrogen oxide synthase affect the enzyme activity and the oxygen sensitivity of the histochemical assay. *Acta Histochem.* 107: 31-41.
4. Huang, C.S., et al. 2005. Genetic factors related to unconjugated hyperbilirubinemia amongst adults. *Pharmacogenet Genomics* 15: 43-50.
5. Kotaka, M., et al. 2005. Structural studies of glucose-6-phosphate and NADP⁺ binding to human glucose-6-phosphate dehydrogenase. *Acta Crystallogr. D Biol. Crystallogr.* 61: 495-504.

CHROMOSOMAL LOCATION

Genetic locus: G6PD (human) mapping to Xq28.

PRODUCT

G6PD (h2): 293T Lysate represents a lysate of human G6PD transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

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.

APPLICATIONS

G6PD (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive G6PD antibodies.

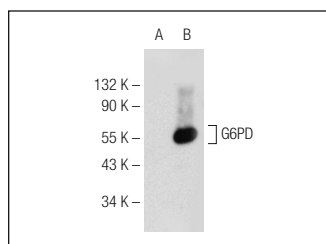
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

G6PD (G-12): sc-373886 is recommended as a positive control antibody for Western Blot analysis of enhanced human G6PD expression in G6PD transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

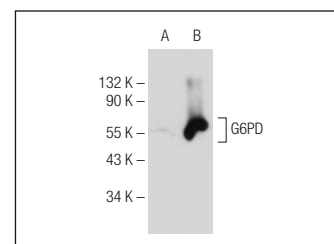
RECOMMENDED SUPPORT REAGENTS

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



G6PD (G-12): sc-373886. Western blot analysis of G6PD expression in non-transfected: sc-117752 (A) and human G6PD transfected: sc-173874 (B) 293T whole cell lysates.



G6PD (G-6): sc-373887. Western blot analysis of G6PD expression in non-transfected: sc-117752 (A) and human G6PD transfected: sc-173874 (B) 293T 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.