

# G6PD (C-17): sc-46968

## 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 lympho-blasts, 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

- Martini, G., Toniolo, D., Vulliamy, T., Luzzatto, L., Dono, R., Viglietto, G., Paonessa, G., D'Urso, M. and Persico, M.G. 1986. Structural analysis of the X-linked gene encoding human glucose-6-phosphate dehydrogenase. *EMBO J.* 5: 1849-1855.
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- Huang, C.S., Huang, M.J., Lin, M.S., Yang, S.S., Teng, H.C. and Tang, K.S. 2005. Genetic factors related to unconjugated hyperbilirubinemia amongst adults. *Pharmacogenet. Genomics* 15: 43-50.
- Kotaka, M., Gover, S., Vandeputte-Rutten, L., Au, S.W., Lam, V.M. and Adams, M.J. 2005. Structural studies of glucose-6-phosphate and NADP<sup>+</sup> binding to human glucose-6-phosphate dehydrogenase. *Acta Crystallogr. D Biol. Crystallogr.* 61: 495-504.

## CHROMOSOMAL LOCATION

Genetic locus: G6PD (human) mapping to Xq28; G6pd (mouse) mapping to X A7.3.

## SOURCE

G6PD (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of G6PD 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-46968 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.

## APPLICATIONS

G6PD (C-17) is recommended for detection of G6PD of mouse, rat and 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).

G6PD (C-17) is also recommended for detection of G6PD in additional species, including canine and porcine.

Suitable for use as control antibody for G6PD siRNA (h): sc-60667, G6PD siRNA (m): sc-60668, G6PD shRNA Plasmid (h): sc-60667-SH, G6PD shRNA Plasmid (m): sc-60668-SH, G6PD shRNA (h) Lentiviral Particles: sc-60667-V and G6PD shRNA (m) Lentiviral Particles: sc-60668-V.

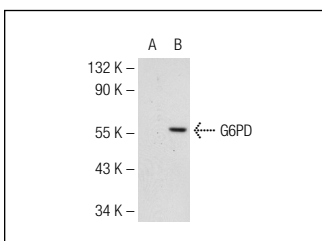
Molecular Weight of G6PD: 58 kDa.

Positive Controls: G6PD (h2): 293T Lysate: sc-173874.

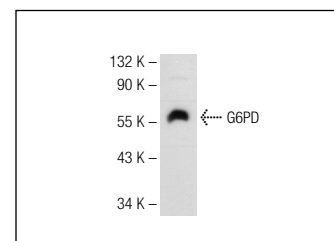
## RECOMMENDED SECONDARY REAGENTS

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



G6PD (C-17): sc-46968. Western blot analysis of G6PD expression in non-transfected: sc-117752 (A) and human G6PD transfected: sc-173874 (B) 293T whole cell lysates.



G6PD (C-17): sc-46968. Western blot analysis of G6PD expression in 293T whole cell lysate.

## RESEARCH USE

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

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Try **G6PD (G-12): sc-373886** or **G6PD (G-6): sc-373887**, our highly recommended monoclonal alternatives to G6PD (C-17).