SANTA CRUZ BIOTECHNOLOGY, INC.

H6PD (Y-17): sc-54902

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

H6PD (hexose-6-phosphate dehydrogenase, GDH/6PGL endoplasmic bifunctional protein) is a 789 amino acid protein encoded by the human gene H6PD. The N-terminal section of H6PD belongs to the glucose-6-phosphate dehydrogenase family, while the C-terminal section belongs to the glucosamine/galactosamine-6-phosphate isomerase family, 6-phosphogluconolactonase subfamily. H6PD is responsible primarily for the oxidation of glucose-6-phosphate and glucose. It also oxidizes other hexose-6-phosphates. H6PD catalyzes the conversion of glucose 6-phosphate to 6-phosphogluconolactone within the lumen of the endoplasmic reticulum, thereby generating reduced nicotinamide adenine dinucleotide phosphate. Reduced nicotinamide adenine dinucleotide phosphate is a necessary cofactor for the reductase activity of 11β-hydroxysteroid dehydrogenase type 1, which converts hormonally inactive cortisone to active cortisol (in rodents, 11-dehydrocorticosterone to corticosterone).

REFERENCES

1. Draper, N., Walker, E.A., Bujalska, I.J., Tomlinson, J.W., Chalder, S.M., Arlt, W., Lavery, G.G., Bedendo, O., Ray, D.W., Laing, I., Malunowicz, E., White, P.C., Hewison, M., Mason, P.J., Connell, J.M., Shackleton, C.H. and Stewart, P.M. 2003. Mutations in the genes encoding 11β-hydroxysteroid dehydrogenase type 1 and hexose-6-phosphate dehydrogenase interact to cause cortisone reductase deficiency. Nat. Genet. 34: 434-439.
2. San Millán, J.L., Botella-Carretero, J.I., Alvarez-Blasco, F., Luque-Ramírez, M., Sancho, J., Moghetti, P. and Escobar-Morreale, H.F. 2005. A study of the hexose-6-phosphate dehydrogenase gene R453Q and 11β-hydroxysteroid dehydrogenase type 1 gene 83557insA polymorphisms in the polycystic ovary syndrome. J. Clin. Endocrinol. Metab. 90: 4157-4162.
3. White, P.C. 2005. Genotypes at 11β-hydroxysteroid dehydrogenase type 11B1 and hexose-6-phosphate dehydrogenase loci are not risk factors for apparent cortisone reductase deficiency in a large population-based sample. J. Clin. Endocrinol. Metab. 90: 5880-5883.

CHROMOSOMAL LOCATION

Genetic locus: H6PD (human) mapping to 1p36.22.

SOURCE

H6PD (Y-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of H6PD 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-54902 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

H6PD (Y-17) is recommended for detection of H6PD of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

H6PD (Y-17) is also recommended for detection of H6PD in additional species, including canine.

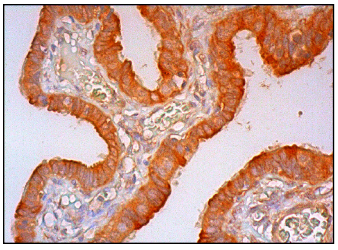
Suitable for use as control antibody for H6PD siRNA (h): sc-62431, H6PD shRNA Plasmid (h): sc-62431-SH and H6PD shRNA (h) Lentiviral Particles: sc-62431-V.

Molecular Weight of H6PD: 89 kDa.

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) 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



H6PD (Y-17): sc-54902. Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing cytoplasmic staining of glandular cells.

RESEARCH USE

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