

H6PD (C-10): sc-377180

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 11 β -hydroxysteroid dehydrogenase type 1, which converts hormonally inactive cortisone to active cortisol (in rodents, 11-dehydrocorticosterone to corticosterone).

CHROMOSOMAL LOCATION

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

SOURCE

H6PD (C-10) is a mouse monoclonal antibody raised against amino acids 501-791 mapping at the C-terminus of H6PD of human origin.

PRODUCT

Each vial contains 200 μ g IgG κ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

H6PD (C-10) is available conjugated to agarose (sc-377180 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377180 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377180 PE), fluorescein (sc-377180 FITC), Alexa Fluor® 488 (sc-377180 AF488), Alexa Fluor® 546 (sc-377180 AF546), Alexa Fluor® 594 (sc-377180 AF594) or Alexa Fluor® 647 (sc-377180 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377180 AF680) or Alexa Fluor® 790 (sc-377180 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

H6PD (C-10) is recommended for detection of H6PD of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

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.

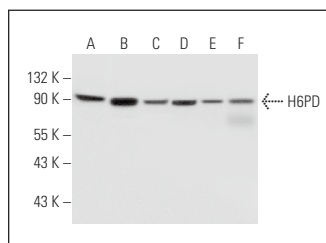
Molecular Weight of H6PD: 89 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, Jurkat whole cell lysate: sc-2204 or HCT-8 cell lysate: sc-24675.

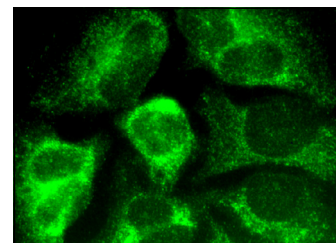
RECOMMENDED SUPPORT REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



H6PD (C-10): sc-377180. Western blot analysis of H6PD expression in Hep G2 (A), HCT-8 (B), Jurkat (C), NCI-H226 (D) and NCI-H1299 (E) whole cell lysates and human tonsil tissue extract (F).



H6PD (C-10): sc-377180. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Sarkar, S., et al. 2016. Expression of microRNA-34a in Alzheimer's disease brain targets genes linked to synaptic plasticity, energy metabolism, and resting state network activity. *Brain Res.* 1646: 139-151.
2. Fornalewicz, K., et al. 2017. Silencing of the pentose phosphate pathway genes influences DNA replication in human fibroblasts. *Gene* 635: 33-38.
3. Gómez de Cedrón, M., et al. 2017. MicroRNA-661 modulates redox and metabolic homeostasis in colon cancer. *Mol. Oncol.* 11: 1768-1787.
4. Wang, K., et al. 2024. Immune cell infiltration and drug response in glioblastoma multiforme: insights from oxidative stress-related genes. *Cancer Cell Int.* 24: 123.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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