abcam

Product datasheet

Anti-Glucose 6 Phosphate Dehydrogenase antibody ab993

13 Abreviews 50 References 3 Images

Overview

Product name	Anti-Glucose 6 Phosphate Dehydrogenase antibody
Description	Rabbit polyclonal to Glucose 6 Phosphate Dehydrogenase
Host species	Rabbit
Tested applications	**Suitable for:** IP, WB, ICC/IF
Species reactivity	**Reacts with:** Mouse, Human **Predicted to work with:** Chimpanzee, Baboon, Cynomolgus monkey, Rhesus monkey, Gorilla
Immunogen	Synthetic peptide within Human Glucose 6 Phosphate Dehydrogenase aa 50-100. The exact sequence is proprietary. Database link: **P11413**
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer	pH: 7 Preservative: 0.1% Sodium azide Constituents: 0.021% PBS, 1.764% Sodium citrate, 1.815% Tris
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab993 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IP		Use at 2-10 µg/mg of lysate.
WB	★★★★☆ **(6)**	1/1000 - 1/10000. Predicted molecular weight: 59 kDa.
ICC/IF	★★★★★ **(4)**	Use a concentration of 5 µg/ml.

Target

Function Catalyzes the rate-limiting step of the oxidative pentose-phosphate pathway, which represents a route for the dissimilation of carbohydrates besides glycolysis. The main function of this enzyme is to provide reducing power (NADPH) and pentose phosphates for fatty acid and nucleic acid synthesis.

Tissue specificity Isoform Long is found in lymphoblasts, granulocytes and sperm.

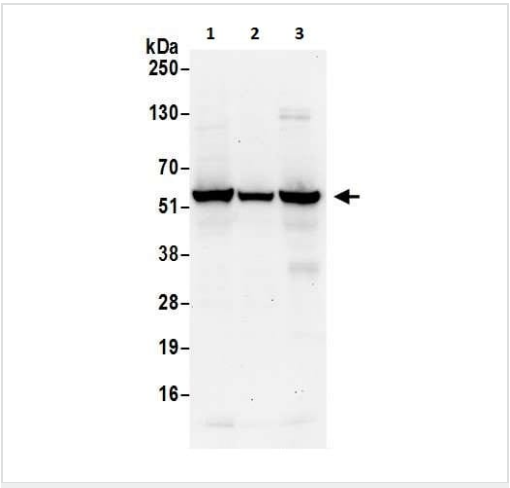
Pathway Carbohydrate degradation; pentose phosphate pathway; D-ribulose 5-phosphate from D-glucose 6-phosphate (oxidative stage): step 1/3.

Involvement in disease Anemia, non-spherocytic hemolytic, due to G6PD deficiency

Sequence similarities Belongs to the glucose-6-phosphate dehydrogenase family.

Post-translational modifications Acetylated by ELP3 at Lys-403; acetylation inhibits its homodimerization and enzyme activity. Deacetylated by SIRT2 at Lys-403; deacetylation stimulates its enzyme activity.

Images



Western blot - Anti-Glucose 6 Phosphate Dehydrogenase antibody (ab993)

All lanes : Anti-Glucose 6 Phosphate Dehydrogenase antibody (ab993) at 1 µg/ml

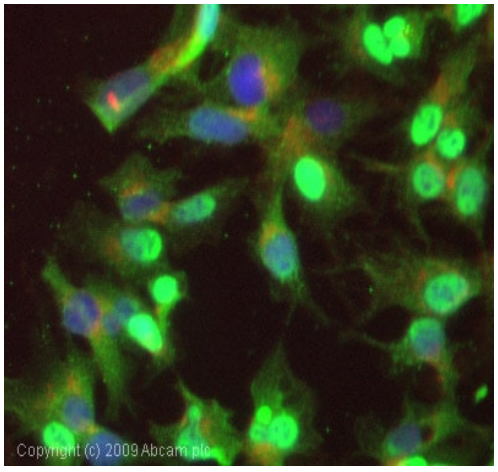
Lane 1 : HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell lysate
Lane 2 : HEK-293T (human epithelial cell line from embryonic kidney transformed with large T antigen) whole cell lysate
Lane 3 : NIH/3T3 (mouse embryo fibroblast cell line) whole cell lysate

Lysates/proteins at 50 µg per lane.

Developed using the ECL technique.

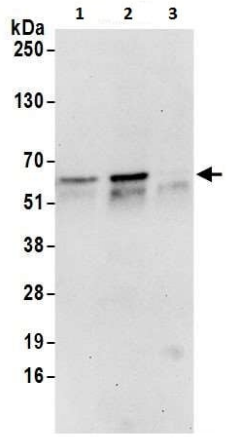
Predicted band size: 59 kDa

Exposure time: 30 seconds



Immunocytochemistry/ Immunofluorescence - Anti-Glucose 6 Phosphate Dehydrogenase antibody (ab993)

ICC/IF image of ab993 stained MCF7 cells. The cells were 100% methanol fixed (5 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab993 5µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-rabbit IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.



Immunoprecipitation - Anti-Glucose 6 Phosphate Dehydrogenase antibody (ab993)

Glucose 6 Phosphate Dehydrogenase was immunoprecipitated from NIH/3T3 (mouse embryo fibroblast cell line) whole cell lysate (1 mg for IP, 20% of IP loaded) with ab993 at 6 µg/mg lysate. Western blot was performed from the immunoprecipitate using ab993 at 1 µg/ml.

Lane 1: ab993 (batch 3) IP in NIH/3T3 whole cell lysate.

Lane 2: ab993 (batch 4) IP in NIH/3T3 whole cell lysate.

Lane 3: Control IgG IP in NIH/3T3 whole cell lysate.

Detection: Chemiluminescence with exposure time of 30 seconds.

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