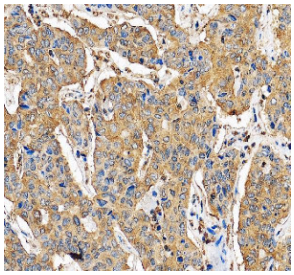
G6PD Antibody / Pentose Phosphate Pathway Enzyme Antibody (R31611)

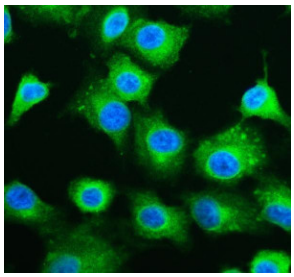
Catalog No.	Formulation	Size
R31611	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

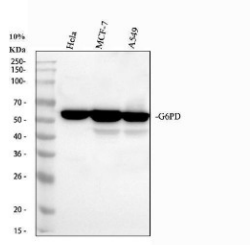
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
Gene ID	2539
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells Immunoprecipitation: 2ug per 500ug of lysate
Limitations	This G6PD Antibody / Pentose Phosphate Pathway Enzyme Antibody is available for research use only.



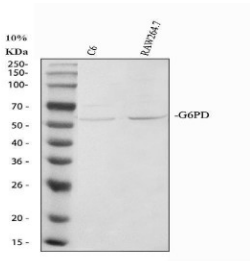
G6PD Antibody Human Liver Cancer IHC. Immunohistochemical staining of FFPE human liver cancer tissue using G6PD Antibody at 2 ug/ml with HRP/DAB detection following heat-induced epitope retrieval in pH8 EDTA buffer. Moderate to strong cytoplasmic staining is observed throughout the tumor cells, consistent with the expected localization of the G6PD enzyme in the cytosol. This staining pattern demonstrates the utility of G6PD Antibody, a Pentose Phosphate Pathway Enzyme Antibody, for investigating G6PD expression, cellular metabolism and oxidative stress in human liver cancer.



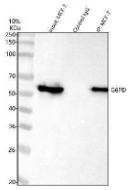
G6PD Antibody Human A549 IF. Immunofluorescent staining of A549 human lung carcinoma cells using G6PD Antibody (green) following enzyme-mediated antigen retrieval and DAPI nuclear counterstaining (blue). G6PD exhibits predominantly cytoplasmic staining, consistent with its role as a cytosolic enzyme in the pentose phosphate pathway responsible for NADPH production and redox homeostasis. This result demonstrates the utility of G6PD Antibody, a Pentose Phosphate Pathway Enzyme Antibody, for investigating G6PD localization, cellular metabolism and oxidative stress responses in cultured human cells.



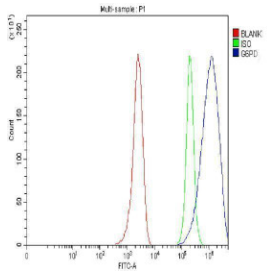
G6PD Antibody Human Cancer Cell WB. Western blot analysis of G6PD Antibody using lysates from lane 1: human HeLa cells, lane 2: human MCF-7 cells and lane 3: human A549 cells. A single prominent band is detected at approximately 59 kDa in all three cell lines, consistent with the predicted molecular weight of endogenous G6PD. These results demonstrate reliable detection of G6PD in human cancer cells and support the use of G6PD Antibody, a Pentose Phosphate Pathway Enzyme Antibody, for studies of cellular metabolism, NADPH production and oxidative stress.



G6PD Antibody Mouse and Rat WB. Western blot analysis of G6PD Antibody using lysates from lane 1: rat C6 cells and lane 2: mouse RAW264.7 cells. A specific band is detected at approximately 59 kDa in both samples, consistent with the predicted molecular weight of endogenous G6PD. These results demonstrate cross-species recognition of G6PD and support the use of G6PD Antibody, a Pentose Phosphate Pathway Enzyme Antibody, for studies of cellular metabolism, NADPH production and redox regulation in rodent models.



G6PD Antibody Human MCF-7 IP. Immunoprecipitation of endogenous G6PD from MCF-7 human breast cancer cell lysate using G6PD Antibody, followed by Western blot detection with the same antibody. Lane 1: MCF-7 input lysate, lane 2: rabbit IgG negative control immunoprecipitation, and lane 3: G6PD immunoprecipitation. A specific band is detected at approximately 59 kDa in the input and G6PD immunoprecipitate, while no corresponding band is observed in the IgG control, demonstrating specific enrichment of endogenous G6PD. This result supports the use of G6PD Antibody, a Pentose Phosphate Pathway Enzyme Antibody, for immunoprecipitation and studies of G6PD-associated metabolic pathways.



G6PD Antibody Human MCF-7 FACS. Flow cytometry analysis of fixed and permeabilized MCF-7 human breast cancer cells stained with G6PD Antibody at 1 ug/10^6 cells, followed by a Fluoro488-conjugated secondary antibody. The blue histogram (G6PD) exhibits a clear rightward shift relative to the rabbit IgG isotype control (green) and unstained cells (red), demonstrating specific intracellular detection of endogenous G6PD. These results support the use of G6PD Antibody, a Pentose Phosphate Pathway Enzyme Antibody, for analyzing G6PD expression and cellular metabolic activity by flow cytometry.

Description

G6PD Antibody / Pentose Phosphate Pathway Enzyme Antibody recognizes glucose-6-phosphate dehydrogenase (G6PD), the rate-limiting enzyme of the pentose phosphate pathway. G6PD catalyzes the oxidation of glucose-6-phosphate while generating nicotinamide adenine dinucleotide phosphate (NADPH), providing reducing power required for antioxidant defense, lipid biosynthesis and cellular metabolism. Because G6PD serves as the primary source of NADPH in many cell types, it is essential for maintaining redox homeostasis and protecting cells from oxidative damage. NSJ Bioreagents offers high-quality G6PD Antibody reagents for investigating metabolic regulation and pentose

phosphate pathway activity.

The pentose phosphate pathway supplies both NADPH and ribose-5-phosphate, supporting nucleotide synthesis, biosynthetic reactions and protection against reactive oxygen species. G6PD activity is tightly regulated in response to metabolic demand and oxidative stress, allowing cells to maintain intracellular reducing capacity during normal physiology and environmental challenge. In red blood cells, which lack mitochondria, G6PD is particularly important because the pentose phosphate pathway represents the principal source of NADPH required to preserve reduced glutathione and prevent oxidative injury. As a result, G6PD Antibody is widely used to investigate cellular metabolism, antioxidant responses and metabolic adaptation.

Altered G6PD expression and activity have been associated with numerous human diseases, including G6PD deficiency, one of the world's most common inherited enzyme disorders. Reduced enzyme activity increases susceptibility to oxidative stress and may result in hemolytic anemia following exposure to certain medications, infections or dietary oxidants. Conversely, increased G6PD expression has been reported in many cancers, where enhanced pentose phosphate pathway activity supports rapid proliferation, anabolic metabolism and resistance to oxidative stress. These diverse biological roles have made G6PD an important target in studies of hematology, oncology, immunology and metabolic disease.

An G6PD Antibody is a valuable reagent for investigating glucose metabolism, redox regulation and antioxidant defense. A Pentose Phosphate Pathway Enzyme Antibody supports research involving NADPH production, oxidative stress, cancer metabolism, inherited metabolic disorders and cellular biosynthetic pathways.

Researchers studying metabolic regulation and cellular bioenergetics may also be interested in our Metabolism Research Antibodies page, featuring antibodies against enzymes involved in carbohydrate, lipid and energy metabolism.

Application Notes

The stated application concentrations are suggested starting amounts. Titration of the G6PD Antibody / Pentose Phosphate Pathway Enzyme Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

Human partial recombinant protein (AA 315-515) was used as the immunogen for this G6PD antibody.

Storage

After reconstitution, the G6PD antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

G6PD antibody, Pentose Phosphate Pathway Enzyme antibody, Glucose-6-Phosphate Dehydrogenase antibody, G6PDH antibody

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