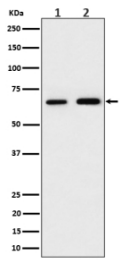
PGM1 Antibody / Phosphoglucomutase 1 [clone 30P21] (FY13301)

Catalog No.	Formulation	Size
FY13301	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Human, Mouse, Rat
Format	Liquid
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	30P21
Purity	Affinity chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	P36871
Applications	Western Blot : 1:500-1:2000 Immunocytochemistry/Immunofluorescence : 1:50-1:200 Immunoprecipitation : 1:50
Limitations	This PGM1 antibody is available for research use only.



Western blot analysis of PGM1 expression in (1) human 293 cell lysate; (2) mouse RAW264.7 cell lysate using PGM1 antibody. Predicted molecular weight ~61 kDa.

Description

PGM1 antibody detects Phosphoglucomutase 1, encoded by the PGM1 gene. Phosphoglucomutase 1 is a key metabolic

enzyme that catalyzes the reversible conversion of glucose-1-phosphate and glucose-6-phosphate, thereby linking glycogen metabolism with glycolysis and gluconeogenesis. PGM1 antibody provides researchers with an important reagent to study carbohydrate metabolism, energy regulation, and metabolic disorders.

Phosphoglucomutase 1 functions as a critical branch-point enzyme, controlling the flux of glucose molecules between storage and utilization pathways. Research using PGM1 antibody has shown that its activity is essential for maintaining blood glucose levels during fasting and feeding cycles. The enzyme is expressed in most tissues, but is particularly abundant in liver and muscle, where it helps balance glycogen reserves with immediate energy needs. This makes Phosphoglucomutase 1 indispensable for metabolic flexibility.

Studies with PGM1 antibody have revealed that deficiency in this enzyme leads to PGM1 deficiency, also known as glycogen storage disease type XIV. Patients present with hypoglycemia, hepatomegaly, exercise intolerance, and sometimes congenital disorders of glycosylation, as the enzyme also contributes to protein glycosylation pathways. Mutations in PGM1 impair enzymatic activity, demonstrating the broad role of this protein in both energy metabolism and protein processing.

In cancer research, Phosphoglucomutase 1 has gained attention as a metabolic regulator. Studies with PGM1 antibody have shown that altered expression levels can reprogram glucose metabolism to support rapid tumor growth. By increasing glycolytic flux and maintaining biosynthetic precursors, PGM1 supports cell proliferation. This positions it as a potential biomarker for metabolic adaptation in cancer.

PGM1 antibody is widely used in western blotting, immunohistochemistry, and immunofluorescence. Western blotting quantifies protein levels and detects isoforms, immunohistochemistry reveals tissue distribution in metabolic organs, and immunofluorescence highlights cytoplasmic localization associated with glycogen granules. These experimental applications make PGM1 antibody valuable in basic and clinical research.

By supplying validated PGM1 antibody reagents, NSJ Bioreagents supports studies into carbohydrate metabolism, inherited disorders, and tumor biology. Detection of Phosphoglucomutase 1 provides insight into how cells balance energy storage with utilization under diverse physiological conditions.

Application Notes

Optimal dilution of the PGM1 antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human PGM1 was used as the immunogen for the PGM1 antibody.

Storage

Store the PGM1 antibody at -20oC.