Human PGM1 antibody

Catalog Number: ATGA0406

PRODUCT INFORMATION

Catalog number
ATGA0406

Clone No.
AT84G2

Product type
Monoclonal Antibody

UnitProt No.
P36871

NCBI Accession No.
NP_002624

Alternative Names
Phosphoglucomutase-1 isoform 1, CDG1T, GSD14

PRODUCT SPECIFICATION

Antibody Host
Mouse

Reacts With
Human

Concentration
1mg/ml (determined by BCA assay)

Formulation
Liquid in. Phosphate-Buffered Saline (pH 7.4) with 0.02% Sodium Azide, 10% glycerol

Immunogen
Recombinant human PGM1 (1-562aa) purified from E. coli

Isotype
IgG1 kappa

Purification Note
By protein-A affinity chromatography

Application
ELISA,WB,ICC/IF

Usage
The antibody has been tested by ELISA, Western blot and ICC/IF analysis to assure specificity and reactivity. Since application varies, however, each investigation should be titrated by the reagent to obtain optimal results.

Storage

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Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

BACKGROUND

Description

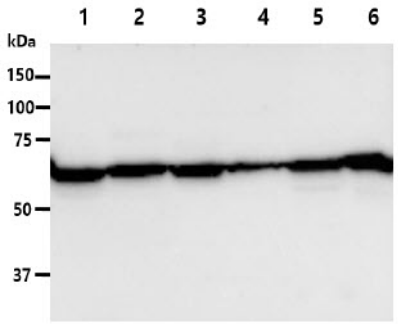
PGM1 is an evolutionarily conserved enzyme that regulates one of the most important metabolic carbohydrate trafficking points in prokaryotic and eukaryotic organisms, catalyzing the bi-directional interconversion of glucose 1-phosphate (G-1-P) and glucose 6-phosphate (G-6-P). In one direction, G-1-P produced from sucrose catabolism is converted to G-6-P, the first intermediate in glycolysis. In the other direction, conversion of G-6-P to G-1-P generates a substrate for synthesis of UDP-glucose, which is required for synthesis of a variety of cellular constituents, including cell wall polymers and glycoproteins. PGM1 has been used extensively as a genetic marker for isozyme polymorphism among humans. PGM is known to be post-translationally modified by cytoplasmic glycosylation that does not seem to regulate its enzymatic activity but rather is implicated in the localization of the protein. Glucose 1, 6 bisphosphate (Glc-1, 6-P2), a powerful regulator of carbohydrate metabolism, has been demonstrated to be a potent activator of PGM. PGM1 is also modified by phosphorylation on Ser108 as part of its catalytic mechanism. This is shown to be performed by Pak1, a previously identified signaling kinase.

General References

Boros LG., et al. (2002) Pancreas. 24(1): 26-33.
Dey NB., et al. (1994) The Journal of Biological Chemistry. 269(43): 27143-8.
Gururaj A., et al. (2004) Oncogene. 23(49): 8118-27.

DATA

Western blot analysis (WB)



The cell lysates (40ug) were resolved by SDS-PAGE, transferred to PVDF membrane and probed with anti-human PGM1 antibody (1:1000). Proteins were visualized using a goat anti-mouse secondary antibody conjugated to HRP and an ECL detection system.
Lane 1. : 293T cell lysate
Lane 2. : HepG2 cell lysate
Lane 3. : NIH/3T3 cell lysate
Lane 4. : Jurkat cell lysate
Lane 5. : HeLa cell lysate
Lane 6. : U87MG cell lysate

Immunocytochemistry/Immunofluorescence (ICC/IF)

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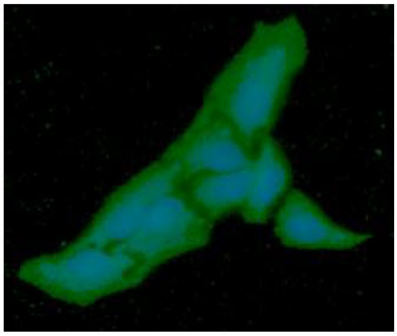

ICC/IF analysis of PGM1 in HeLa cells. The cell was stained with ATGA0406 (1:100). The secondary antibody (green) was used Alexa Fluor 488. DAPI was stained the cell nucleus (blue).