10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

G6PD Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1637a

Product Information

Application	WB, IHC, FC, E
Primary Accession	P11413
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	2H7
Isotype	IgG1
Calculated MW	59257
Description	This gene encodes glucose-6-phosphate dehydrogenase. This protein is a cytosolic enzyme encoded by a housekeeping X-linked gene whose main function is to produce NADPH, a key electron donor in the defense against oxidizing agents and in reductive biosynthetic reactions. G6PD is remarkable for its genetic diversity. Many variants of G6PD, mostly produced from missense mutations, have been described with wide ranging levels of enzyme activity and associated clinical symptoms. G6PD deficiency may cause neonatal jaundice, acute hemolysis, or severe chronic non-spherocytic hemolytic anemia. Two transcript variants encoding different isoforms have been found for this gene.
Immunogen	Purified recombinant fragment of human G6PD expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	2539
Other Names	Glucose-6-phosphate 1-dehydrogenase, G6PD, 1.1.1.49, G6PD
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 FC~~1/200 - 1/400 E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	G6PD Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	G6PD
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. Also catalyzes the conversion of NAADPH, which is produced by enzymes such as DUOX1, DUOX2 and NOX5 from NAADP and promotes Ca(2+) signaling during T cell activation, back to NAADP (PubMed:34784249).
Cellular Location	Cytoplasm, cytosol. Membrane; Peripheral membrane protein
Tissue Location	Isoform Long is found in lymphoblasts, granulocytes and sperm

References

1. Science. 2009 Dec 11;326(5959):1546-9. 2. Immunol Invest. 2009;38(6):551-9.

Images

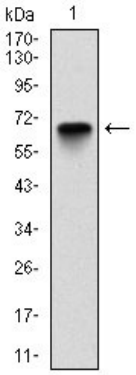


Figure 1: Western blot analysis using G6PD mAb against human G6PD (AA: 275-515) recombinant protein. (Expected MW is 53.1 kDa)

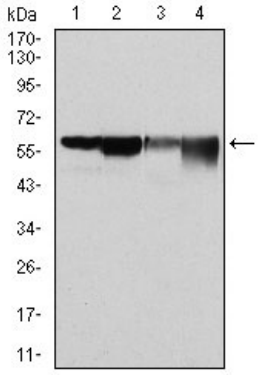


Figure 2: Western blot analysis using G6PD mouse mAb against Hela (1), MCF-7 (2), Jurkat (3) and K562 (4) cell lysate.

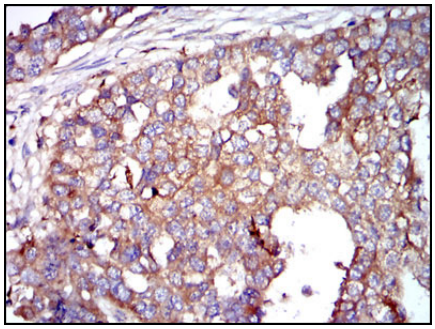
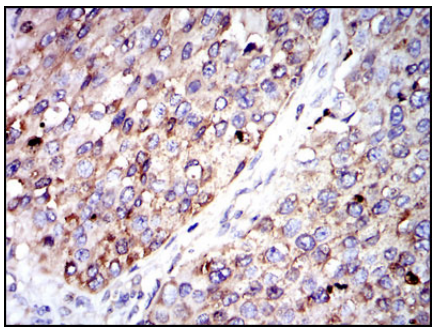


Figure 3: Immunohistochemical analysis of paraffin-embedded breast cancer tissues using G6PD mouse mAb with DAB staining.

Figure 4: Immunohistochemical analysis of paraffin-embedded kidney cancer tissues using G6PD mouse mAb with DAB staining.



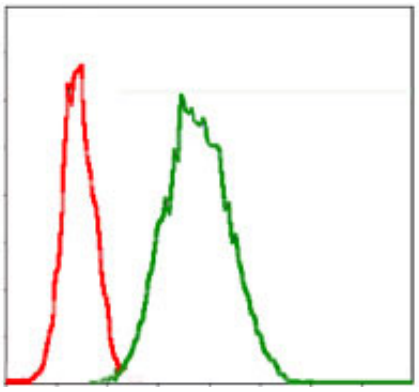


Figure 5: Flow cytometric analysis of Jurkat cells using G6PD mouse mAb (green) and negative control (red).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.