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G6PD Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP5094c

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	P11413
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB18977
Calculated MW	59257
Antigen Region	297-326

Additional Information

Gene ID	2539
Other Names	Glucose-6-phosphate 1-dehydrogenase, G6PD, G6PD
Target/Specificity	This G6PD antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 297-326 amino acids from the Central region of human G6PD.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	G6PD Antibody (Center) 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

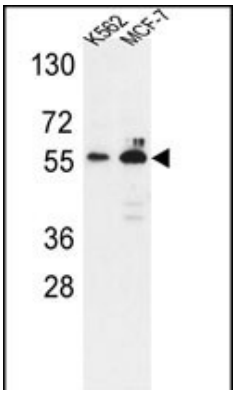
Background

G6PD 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.

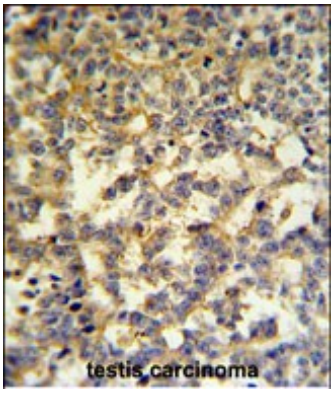
References

Louicharoen, C., et al. Science 326(5959):1546-1549(2009)
Zhong, D.N., et al. Zhongguo Dang Dai Er Ke Za Zhi 11(12):970-972(2009)
Tiono, A.B., et al. Am. J. Trop. Med. Hyg. 81(6):969-978(2009)

Images

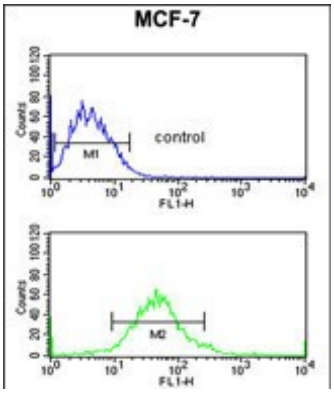


Western blot analysis of G6PD Antibody (Center) (Cat. #AP5094c) in K562,MCF-7 cell line lysates (35ug/lane).G6PD (arrow) was detected using the purified Pab.



G6PD Antibody (Center) (Cat. #AP5094c) IHC analysis in formalin fixed and paraffin embedded testis followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the G6PD Antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.

G6PD Antibody (Center) (Cat. #AP5094c) flow cytometric analysis of MCF-7 cells (bottom histogram) compared to a negative control cell (top histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.



Citations

- Activation of pro-survival metabolic networks by 1,25(OH) does not hamper the sensitivity of breast cancer cells to chemotherapeutics.