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FPGS Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP6975c

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	Q05932
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB21571
Calculated MW	64609
Antigen Region	304-330

Additional Information

Gene ID	2356
Other Names	Folylpolyglutamate synthase, mitochondrial, Folylpoly-gamma-glutamate synthetase, FPGS, Tetrahydrofolylpolyglutamate synthase, Tetrahydrofolate synthase, FPGS
Target/Specificity	This FPGS antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 304-330 amino acids from the Central region of human FPGS.
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 purified through a protein A column, followed by peptide affinity purification.
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	FPGS Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	FPGS
Function	Catalyzes conversion of folates to polyglutamate derivatives allowing concentration of folate compounds in the cell and the intracellular retention

of these cofactors, which are important substrates for most of the folate-dependent enzymes that are involved in one-carbon transfer reactions involved in purine, pyrimidine and amino acid synthesis. Unsubstituted reduced folates are the preferred substrates. Metabolizes methotrexate (MTX) to polyglutamates.

Cellular Location [Isoform 1]: Mitochondrion inner membrane. Mitochondrion matrix

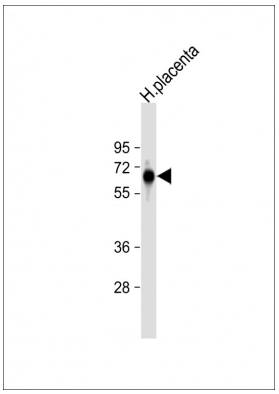
Background

FPGS is the folylpolyglutamate synthetase enzyme. This enzyme has a central role in establishing and maintaining both cytosolic and mitochondrial folylpolyglutamate concentrations and, therefore, is essential for folate homeostasis and the survival of proliferating cells. This enzyme catalyzes the ATP-dependent addition of glutamate moieties to folate and folate derivatives.

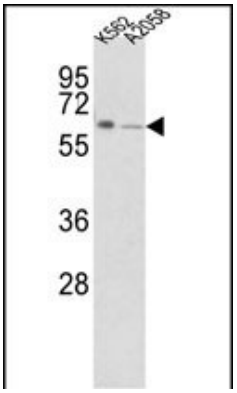
References

Sharma,S., et.al., Pharmacogenet. Genomics 18 (12), 1041-1049 (2008)

Images

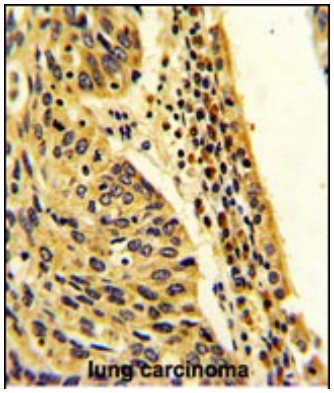


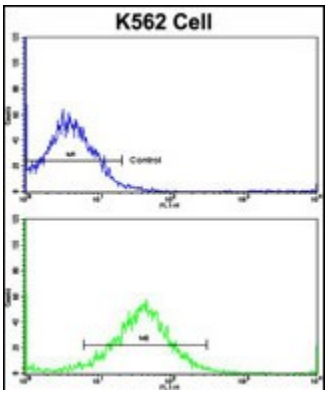
Anti-FPGS Antibody (Center) at 1:1000 dilution + human placenta lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 65 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot analysis of FPGS Antibody (Center) (Cat. #AP6975c) in K562, A2058 cell line lysates (35ug/lane). FPGS (arrow) was detected using the purified Pab.

Formalin-fixed and paraffin-embedded human lung carcinoma with FPGS Antibody (Center), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.





Flow cytometric analysis of K562 cells using FPGS Antibody (Center)(bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.