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H6PD Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP5039b

Product Information

Application	WB, IHC-P, E
Primary Accession	O95479
Other Accession	Q8CFX1
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB24037
Calculated MW	88893
Antigen Region	743-769

Additional Information

Gene ID	9563
Other Names	GDH/6PGL endoplasmic bifunctional protein, Glucose 1-dehydrogenase, Hexose-6-phosphate dehydrogenase, 6-phosphogluconolactonase, 6PGL, H6PD, GDH
Target/Specificity	This H6PD antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 743-769 amino acids from the C-terminal region of human H6PD.
Dilution	WB~~1:1000 IHC-P~~1:100~500 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	H6PD Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	H6PD (HGNC:4795)
Synonyms	GDH

Function	Bifunctional enzyme localized in the lumen of the endoplasmic reticulum that catalyzes the first two steps of the oxidative branch of the pentose phosphate pathway/shunt, an alternative to glycolysis and a major source of reducing power and metabolic intermediates for biosynthetic processes (By similarity). Has a hexose-6-phosphate dehydrogenase activity, with broad substrate specificity compared to glucose-6-phosphate 1-dehydrogenase/G6PD, and catalyzes the first step of the pentose phosphate pathway (PubMed:12858176, PubMed:18628520, PubMed:23132696). In addition, acts as a 6-phosphogluconolactonase and catalyzes the second step of the pentose phosphate pathway (By similarity). May have a dehydrogenase activity for alternative substrates including glucosamine 6-phosphate and glucose 6-sulfate (By similarity). The main function of this enzyme is to provide reducing equivalents such as NADPH to maintain the adequate levels of reductive cofactors in the oxidizing environment of the endoplasmic reticulum (PubMed:12858176, PubMed:18628520, PubMed:23132696). By producing NADPH that is needed by reductases of the lumen of the endoplasmic reticulum like corticosteroid 11-beta-dehydrogenase isozyme 1/HSD11B1, indirectly regulates their activity (PubMed:18628520).
Cellular Location	Endoplasmic reticulum lumen
Tissue Location	Present in most tissues examined, strongest in liver.

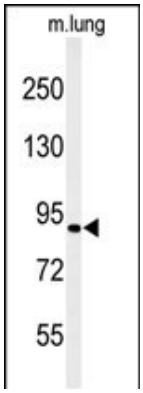
Background

H6PD is 2 forms of glucose-6-phosphate dehydrogenase. G form is X-linked and H form, encoded by this gene, is autosomally linked. This H form shows activity with other hexose-6-phosphates, especially galactose-6-phosphate, whereas the G form is specific for glucose-6-phosphate. Both forms are present in most tissues, but H form is not found in red cells.

References

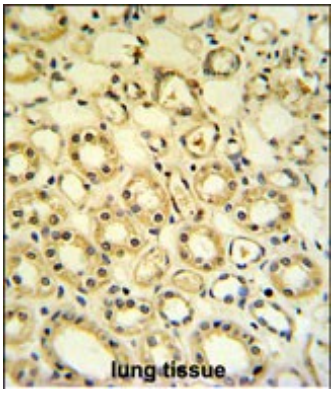
Balazs, Z., et al. Mol. Cell. Endocrinol. 301 (1-2), 117-122 (2009) Zhang, Y.L., et al. Arch. Biochem. Biophys. 483(1):45-54(2009) Uckaya, G., et al. Diabetes Res. Clin. Pract. 82 SUPPL 2, S135-S140 (2008)

Images



Western blot analysis of H6PD Antibody (C-term) (Cat. #AP5039b) in mouse lung tissue lysates (35ug/lane).H6PD (arrow) was detected using the purified Pab.

H6PD Antibody (C-term) (Cat. #AP5039b) IHC analysis in formalin fixed and paraffin embedded lung tissue followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the H6PD Antibody (C-term) for immunohistochemistry. Clinical relevance has not been



evaluated.

Citations

- Sexually dimorphic effects of maternal nutrient reduction on expression of genes regulating cortisol metabolism in fetal baboon adipose and liver tissues.