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PDP1 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP12453c

Product Information

Application	IHC-P, WB, E
Primary Accession	Q9P0J1
Other Accession	NP_001155253.1, NP_001155252.1
Reactivity	Human, Rat, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB31327
Calculated MW	61054
Antigen Region	308-336

Additional Information

Gene ID	54704
Other Names	[Pyruvate dehydrogenase [acetyl-transferring]]-phosphatase 1, mitochondrial, PDP 1, Protein phosphatase 2C, Pyruvate dehydrogenase phosphatase catalytic subunit 1, PDPC 1, PDP1, PDP, PPM2C
Target/Specificity	This PDP1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 308-336 amino acids from the Central region of human PDP1.
Dilution	IHC-P~~1:100~500 WB~~1:1000 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	PDP1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PDP1 (HGNC:9279)
Synonyms	PDP, PPM2C

Function	Mitochondrial enzyme that catalyzes the dephosphorylation and concomitant reactivation of the alpha subunit of the E1 component of the pyruvate dehydrogenase complex (PDC), thereby stimulating the conversion of pyruvate into acetyl-CoA.
Cellular Location	Mitochondrion.

Background

Pyruvate dehydrogenase (E1) is one of the three components (E1, E2, and E3) of the large pyruvate dehydrogenase complex. Pyruvate dehydrogenase kinases catalyze phosphorylation of serine residues of E1 to inactivate the E1 component and inhibit the complex. Pyruvate dehydrogenase phosphatases catalyze the dephosphorylation and activation of the E1 component to reverse the effects of pyruvate dehydrogenase kinases. Pyruvate dehydrogenase phosphatase is a heterodimer consisting of catalytic and regulatory subunits. Two catalytic subunits have been reported; one is predominantly expressed in skeletal muscle and another one is is much more abundant in the liver. The catalytic subunit, encoded by this gene, is the former, and belongs to the protein phosphatase 2C (PP2C) superfamily. Along with the pyruvate dehydrogenase complex and pyruvate dehydrogenase kinases, this enzyme is located in the mitochondrial matrix. Mutation in this gene causes pyruvate dehydrogenase phosphatase deficiency. Multiple alternatively spliced transcript variants encoding different isoforms have been identified.

References

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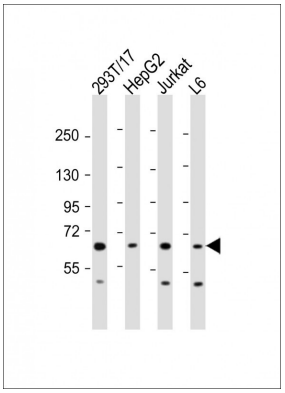
Cameron, J.M., et al. Hum. Genet. 125(3):319-326(2009)
Stellingwerff, T., et al. Am. J. Physiol. Endocrinol. Metab. 290 (2), E380-E388 (2006) :
Maj, M.C., et al. J. Clin. Endocrinol. Metab. 90(7):4101-4107(2005)
Piccinini, M., et al. Obes. Res. 13(4):678-686(2005)

Images



All lanes : Anti-PDP1 Antibody (Center) at 1:2000 dilution Lane 1: 293T/17 whole cell lysate Lane 2: HepG2 whole cell lysate Lane 3: Jurkat whole cell lysate Lane 4: L6 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 61 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Citations

- Tyr-94 phosphorylation inhibits pyruvate dehydrogenase phosphatase 1 and promotes tumor growth.