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PKM1 Antibody (C-term L398)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7476b

Product Information

Application	WB, IHC-P, E
Primary Accession	P14618
Other Accession	P14618-2
Reactivity	Human, Mouse
Predicted	Rat, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	57937
Antigen Region	383-417

Additional Information

Gene ID	5315
Other Names	Pyruvate kinase PKM, Cytosolic thyroid hormone-binding protein, CTHBP, Opa-interacting protein 3, OIP-3, Pyruvate kinase 2/3, Pyruvate kinase muscle isozyme, Thyroid hormone-binding protein 1, THBP1, Tumor M2-PK, p58, PKM, OIP3, PK2, PK3, PKM2
Target/Specificity	This PKM1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 383-417 amino acids from the C-terminal region of human PKM1.
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	PKM1 Antibody (C-term L398) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PKM
Synonyms	OIP3 {ECO:0000303|PubMed:9466265}, PK2,

Function	Catalyzes the final rate-limiting step of glycolysis by mediating the transfer of a phosphoryl group from phosphoenolpyruvate (PEP) to ADP, generating ATP (PubMed:15996096, PubMed:1854723, PubMed:20847263). The ratio between the highly active tetrameric form and nearly inactive dimeric form determines whether glucose carbons are channeled to biosynthetic processes or used for glycolytic ATP production (PubMed:15996096, PubMed:1854723, PubMed:20847263). The transition between the 2 forms contributes to the control of glycolysis and is important for tumor cell proliferation and survival (PubMed:15996096, PubMed:1854723, PubMed:20847263).
Cellular Location	[Isoform M2]: Cytoplasm. Nucleus Note=Translocates to the nucleus in response to various signals, such as EGF receptor activation or apoptotic stimuli (PubMed:17308100, PubMed:22056988, PubMed:24120661). Nuclear translocation is promoted by acetylation by EP300 (PubMed:24120661). Deacetylation by SIRT6 promotes its nuclear export in a process dependent of XPO4, thereby suppressing its ability to activate transcription and promote tumorigenesis (PubMed:26787900).
Tissue Location	[Isoform M2]: Specifically expressed in proliferating cells, such as embryonic stem cells, embryonic carcinoma cells, as well as cancer cells.

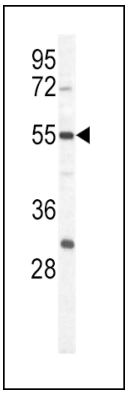
Background

PKM1 is a pyruvate kinase that catalyzes the transfer of a phosphoryl group from phosphoenolpyruvate to ADP, generating ATP and pyruvate. This protein has been shown to interact with thyroid hormone and may mediate cellular metabolic effects induced by thyroid hormones. The protein has been found to bind Opa protein, a bacterial outer membrane protein involved in gonococcal adherence to and invasion of human cells, suggesting a role of this protein in bacterial pathogenesis.

References

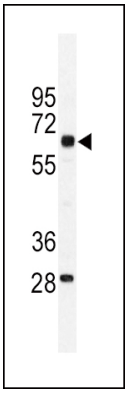
Dombrauckas J.D.Biochemistry 44:9417-9429(2005) Daub H., Olsen J.V.Mol. Cell 31:438-448(2008) Ashizawa K., McPhie P.Biochemistry 30:7105-7111(1991)

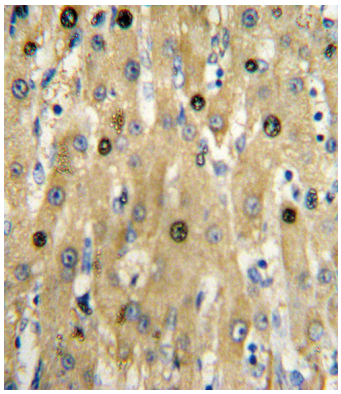
Images



Western blot analysis of PKM1 antibody (C-term L398)(Cat.#AP7476b) in Hela cell line lysates (35ug/lane). PKM1 (arrow) was detected using the purified Pab.

Western blot analysis of PKM1 antibody (C-term L398) (Cat.#AP7476b) in mouse testis tissue lysates (35ug/lane). PKM1 (arrow) was detected using the purified Pab.





Formalin-fixed and paraffin-embedded human hepatocarcinoma reacted with PKM1 Antibody (C-term L398), 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.

Citations

- Dysregulated miR-125a promotes angiogenesis through enhanced glycolysis.
- Enhancing mitochondrial respiration suppresses tumor promoter TPA-induced PKM2 expression and cell transformation in skin epidermal JB6 cells.
- Role of pyruvate kinase M2 in transcriptional regulation leading to epithelial-mesenchymal transition.
- Mammalian target of rapamycin up-regulation of pyruvate kinase isoenzyme type M2 is critical for aerobic glycolysis and tumor growth.
- Pyruvate kinase M2 promotes de novo serine synthesis to sustain mTORC1 activity and cell proliferation.
- Hypoxic stress induces, but cannot sustain trophoblast stem cell differentiation to labyrinthine placenta due to mitochondrial insufficiency.
- Reversal of Warburg Effect and Reactivation of Oxidative Phosphorylation by Differential Inhibition of EGFR Signaling Pathways in Non-Small Cell Lung Cancer.
- The Multifarious Functions of Pyruvate Kinase M2 in Oral Cancer Cells.

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