

Pyruvate Kinase (PKM2) Antibody (C-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7044B

Specification

Pyruvate Kinase (PKM2) Antibody (C-term) - Product Information

Application	IF, WB, IHC-P,E
Primary Accession	P14618
Other Accession	P14786
Reactivity	Human, Mouse, Monkey, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit Ig
Antigen Region	476-505

Pyruvate Kinase (PKM2) Antibody (C-term) - 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 Pyruvate Kinase (PKM2) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 476-505 amino acids from the C-terminal region of human Pyruvate Kinase (PKM2).

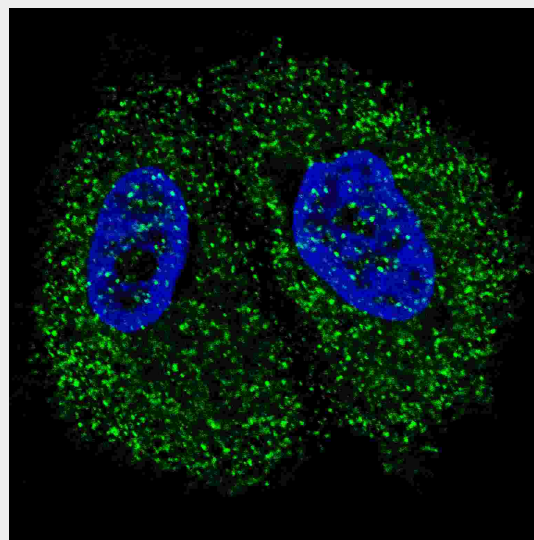
Dilution

IF~~1:200
WB~~1:2000
IHC-P~~1:50~1:100

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



Fluorescent confocal image of MCF7 cells stained with Pyruvate Kinase (PKM2) (C-term) antibody. MCF7 cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.2%, 30 min). Cells were then incubated with AP7044b Pyruvate Kinase (PKM2) (C-term) primary antibody (1:200, 2 h at room temperature). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:1000, 1h). Nuclei were counterstained with Hoechst 33342 (blue) (10 µg/ml, 5 min). Note the highly specific localization of the Pyruvate Kinase (PKM2) mainly to the cytoplasm, supported by Human Protein Atlas Data (<http://www.proteinatlas.org/ENSG00000067225>).

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

Pyruvate Kinase (PKM2) Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

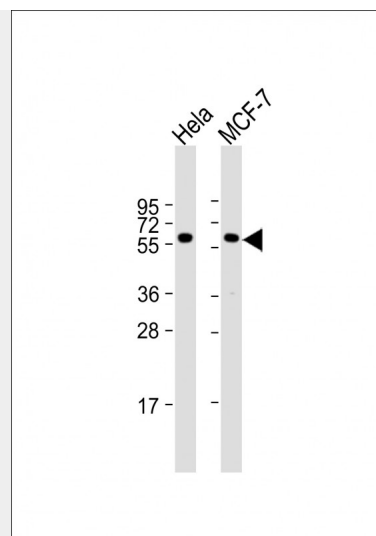
Pyruvate Kinase (PKM2) Antibody (C-term) - Protein Information

Name PKM

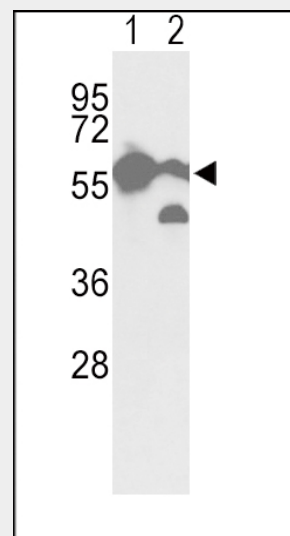
Synonyms OIP3, PK2, PK3, PKM2

Function

Glycolytic enzyme that catalyzes the transfer of a phosphoryl group from phosphoenolpyruvate (PEP) to ADP, generating ATP (PubMed:15996096, PubMed:1854723). 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). 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). In addition to its role in glycolysis, also regulates transcription (PubMed:18191611, PubMed:21620138). Stimulates POU5F1-mediated transcriptional activation (PubMed:21620138).



All lanes : Anti-PKM2 Antibody (N491) at 1:1000 dilution Lane 1: HeLa whole cell lysate Lane 2: MCF-7 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 : 58 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot analysis of hPKM2-N491 (Cat.# AP7173a) in A2058 cell line (lane 1) and mouse brain tissue (lane 2) lysates (35ug/lane). PKM2 (arrow) was detected using the purified Pab.

iprot.org/citations/18191611" target="_blank">18191611). Promotes in a STAT1-dependent manner, the expression of the immune checkpoint protein CD274 in ARNTL/BMAL1-deficient macrophages (By similarity). Also acts as a translation regulator for a subset of mRNAs, independently of its pyruvate kinase activity: associates with subpools of endoplasmic reticulum-associated ribosomes, binds directly to the mRNAs translated at the endoplasmic reticulum and promotes translation of these endoplasmic reticulum-destined mRNAs (By similarity). Plays a general role in caspase independent cell death of tumor cells (PubMed:17308100).

Cellular Location

Cytoplasm. Nucleus Note=Translocates to the nucleus in response to different apoptotic stimuli. Nuclear translocation is sufficient to induce cell death that is caspase independent, isoform-specific and independent of its enzymatic activity.

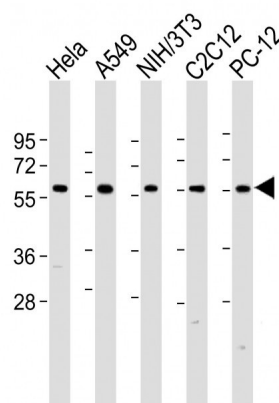
Tissue Location

Specifically expressed in proliferating cells, such as embryonic stem cells, embryonic carcinoma cells, as well as cancer cells.

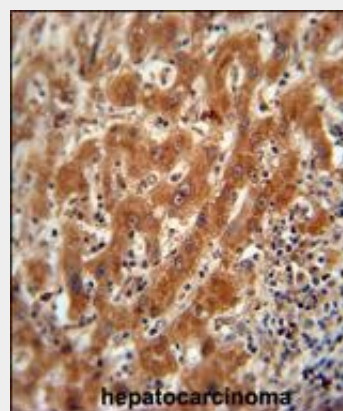
Pyruvate Kinase (PKM2) Antibody (C-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)



All lanes : Anti-hPKM2-N491 at 1:2000 dilution Lane 1: HeLa whole cell lysate Lane 2: A549 whole cell lysate Lane 3: NIH/3T3 whole cell lysate Lane 4: C2C12 whole cell lysate Lane 5: PC-12 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 : 58 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Pyruvate Kinase (PKM2) Antibody (C-term) (Cat. #AP7044b) immunohistochemistry analysis in formalin fixed and paraffin embedded human hepatocarcinoma followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the Pyruvate Kinase (PKM2) Antibody (C-term) for immunohistochemistry. Clinical relevance has not been evaluated.

Pyruvate Kinase (PKM2) Antibody (C-term) - Background

There are 4 isozymes of pyruvate kinase in mammals: L, R, M1 and M2. PKM2 is a pyruvate kinase that catalyzes the production of phosphoenolpyruvate from pyruvate and ATP. This protein has been shown to interact with thyroid hormone, and thus may mediate cellular metabolic effects induced by thyroid hormones. This 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.

Pyruvate Kinase (PKM2) Antibody (C-term) - References

References for protein:

1. Williams, J.M., et al., Mol. Microbiol. 27(1):171-186 (1998).
2. Gress, T.M., et al., Oncogene 13(8):1819-1830 (1996).
3. Kato, H., et al., Proc. Natl. Acad. Sci. U.S.A. 86(20):7861-7865 (1989).
4. Tsutsumi, H., et al., Genomics 2(1):86-89 (1988).
5. Tani, K., et al., Gene 73(2):509-516 (1988).

References for MCF7 cell line:

1. Soule, HD; Vazquez J; Long A; Albert S; Brennan M. (1973). "A human cell line from a pleural effusion derived from a breast carcinoma". Journal of the National Cancer Institute 51 (5): 1409-1416. [PMID 4357757].
2. Levenson, AS; Jordan VC. (1997). "MCF-7: the first hormone-responsive breast cancer cell line". Cancer Research 57 (15): 3071-3078. [PMID 9242427].
3. Lacroix, M; Leclercq G. (2004). "Relevance of breast cancer cell lines as models for breast tumours: an update". Breast Research and Treatment 83 (3): 249-289.[PMID 14758095].

Pyruvate Kinase (PKM2) Antibody (C-term) - Citations

- [AKT-dependent sugar addiction by benzyl isothiocyanate in breast cancer cells.](#)
- [Oxidative stress impairs energy metabolism in primary cells and synovial tissue of patients with rheumatoid arthritis.](#)
- [Resolution of TLR2-induced inflammation through manipulation of metabolic pathways in Rheumatoid Arthritis.](#)
- [Proteomic profiling of acute cardiac allograft rejection.](#)