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Pyruvate Kinase (PKM2) Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AW5378

Product Information

Application	WB
Primary Accession	P14618
Other Accession	P14786
Reactivity	Mouse, Rat, Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	57937
Isotype	Rabbit IgG
Antigen Source	HUMAN

Additional Information

Gene ID	5315
Antigen Region	476-505
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
Dilution	WB~~1:1000
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).
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	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.

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

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.

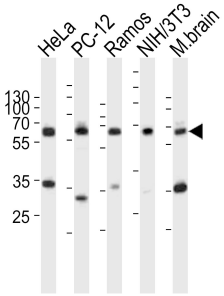
References

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].

Images

Western blot analysis of lysates from HeLa, rat PC-12, Ramos, mouse NIH/3T3 cell line, mouse brain tissue lysate(from left to right), using PKM2-N491(Cat. #AW5378). AW5378 was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was

used as the secondary antibody. Lysates at 20ug per lane.



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