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Pyruvate Kinase (PKM2) Antibody (C-term) Blocking peptide

Synthetic peptide
Catalog # BP7044b

Specification

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

Primary Accession	P14618
Other Accession	P14786

Pyruvate Kinase (PKM2) Antibody (C-term) Blocking peptide - 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
The synthetic peptide sequence used to generate the antibody AP7044b was selected from the C-term region of human PKM2. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

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

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

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Pyruvate Kinase (PKM2) Antibody (C-term) Blocking peptide - 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: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) Blocking peptide - Protocols

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

- Blocking Peptides