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Datasheet for ABIN7163482
anti-PKM antibody

Overview

Quantity:	100 µL
Target:	PKM
Reactivity:	Human
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This PKM antibody is un-conjugated
Application:	ELISA, Western Blotting (WB), Immunoprecipitation (IP)

Product Details

Immunogen:	Recombinant human PKM2 protein
Isotype:	IgG
Cross-Reactivity:	Human
Purification:	Affinity purified

Target Details

Target:	PKM
Alternative Name:	PKM (PKM Products)
Background:	Background: Pyruvate kinase (PK) regulates the final rate-limiting step of glycolysis in the production of pyruvate and adenosine triphosphate (ATP). Alternate splicing of PKM pre-mRNA leads to PKM2 generation by the inclusion of exon 10 and the exclusion of exon 9, which is specific for PKM1. Besides its cytosolic roles in glycolysis, PKM2, which is upregulated by

Target Details

growth factor receptor activation 1, is phosphorylated at S37 by extracellular signal-regulated kinase (ERK) 2. This phosphorylation leads to the cis-trans isomerization of PKM2 by the peptidyl-prolineisomerase protein interacting with never in mitosis A 1 (PIN1), exposure of the nuclear localization signal (NLS) of PKM2, and subsequent binding of importin α 5 for nuclear translocation 2. In the nucleus, PKM2 binds to phosphorylated Y333 of β -catenin, which is essential for β -catenin transactivation 3, and interacts with and phosphorylates histone H3 at T11, leading to H3-K9 acetylation and transcription of genes such as MYC and CCND14. c-Myc expression results in the upregulation of GLUT1, lactate dehydrogenase A (LDHA), and, in a positive feedback loop, PTB-dependent PKM2, which subsequently enhances the Warburg effect 2. Cyclin D1 expression, in turn, promotes G1-S phase transition 3, 4.1 Yang W, Xia Y, Cao Y et al. EGFR-induced and PKCepsilon monoubiquitylation-dependent NF-kappaB activation upregulates PKM2 expression and promotes tumorigenesis. Molecular cell 2012; 48:771-784.2 Yang W, Zheng Y, Xia Y et al. ERK1/2-dependent phosphorylation and nuclear translocation of PKM2 promotes the Warburg effect. Nature cell biology 2012; 14:1295-1304.3 Yang W, Xia Y, Ji H et al. Nuclear PKM2 regulates beta-catenin transactivation upon EGFR activation. Nature 2011; 480:118-122.4 Yang W, Xia Y, Hawke D et al. PKM2 phosphorylates histone H3 and promotes gene transcription and tumorigenesis. Cell 2012; 150:685-696.

Aliases: PKM; PK3; OIP3; PK2;

UniProt: [P14618](#)

Pathways: [Warburg Effect](#)

Application Details

Application Notes: Recommended dilution:WB:1:500-1:5000,IP:1:200-1:2000,

Restrictions: For Research Use only

Handling

Format: Liquid

Buffer: 1.0 mg/mL in phosphate buffer without Mg²⁺/Ca²⁺, pH 7.4, 150 mM NaCl and 50 % glycerol

Storage: -20 °C,-80 °C

Storage Comment: Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.