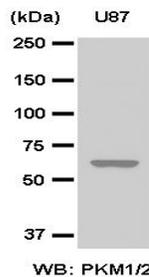




PKM1/2

Mouse monoclonal Antibody

#55511

Catalog Number: 55511**Amount:** 100µg/100µl**Swiss-Prot No. :** P14618**Gene name:** pkm1/2**Gene id:****Form of Antibody:** Purified mouse monoclonal in buffer containing 0.1M Tris-Glycine (pH 7.4, 150 mM NaCl) with 0.2% sodium azide, 50% glycerol**Storage/Stability:** Store at -20°C/1 year**Immunogen:** Purified recombinant human PKM1/2 protein fragments expressed in E.coli**Purification:** affinity-chromatography**Specificity/Sensitivity:** This antibody detects endogenous levels of PKM1/2 and does not cross-react with related proteins**Reactivity:** Human**Applications:** Predicted MW: 60kd WB: 1:1000 -2000

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 growth factor receptor activation, is phosphorylated at S37 by extracellular signal-regulated kinase (ERK). This phosphorylation leads to the *cis-trans* isomerization of PKM2 by the peptidyl-proline isomerase 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. In the nucleus, PKM2 binds to phosphorylated Y333 of β -catenin, which is essential for β -catenin transactivation, and interacts with and phosphorylates histone H3 at T11, leading to H3-K9 acetylation and transcription of genes such as *MYC* and *CCND1*. 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. Cyclin D1 expression, in turn, promotes G1-S phase transition.