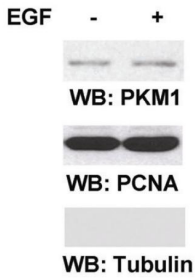
PKM1 Antibody

#21577

Catalog Number: 21577
Amount: 100μg/100μl
Swiss-Prot No. :P14618
Form of Antibody: Rabbit IgG in phosphate buffered saline (without Mg2+ and Ca2+), pH 7.4, 150mM NaCl,0.02% sodium azide and 50% glycerol.
Storage/Stability: Store at -20℃/1 year
Immunogen: The antiserum was produced against synthesized non-phosphopeptide derived from Human PKM1.
Purification: The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Specificity/Sensitivity:PKM1 antibody detects endogenous levels of total PKM1 protein
Reactivity: Human
Applications:
Predicted MW: 58kd
WB:1:500-1000 IHC: 1:50~1:200



The nuclear fractions were prepared from U87/EGFR cells, which had been treated with or without EGF (100 ng/ml) for 10 h. Immunoblotting analyses were performed with the antibody.

Background :
Pyruvate PKM1 encodes a protein involved in glycolysis, the protein is a pyruvate kinase that catalyzes the transfer of a phosphoryl group from phosphoenolpyruvate to ADP, generating ATP and pyruvate. Pyruvate kinase isoform expressed in adult tissues, which replaces isoform M2 after birth [1] . The transition between the highly active tetrameric form and nearly inactive dimeric form contributes to the control of glycolysis and is important for tumor cell proliferation and survival [2,3,4] . In human cancer cells, epidermal growth factor receptor (EGFR) activation induces translocation of PKM2 into the nucleus, but PKM1 failed to translocate into the nucleus [5] .

References：

[1] Christofk HR, Vander Heiden MG, Harris MH, Ramanathan A, Gerszten RE, Wei R, Fleming MD, Schreiber SL, Cantley LC. The M2 splice isoform of pyruvate kinase is important for cancer metabolism and tumour growth. ***Nature.*** 2008 Mar 13;452(7184):230-3. doi: 10.1038/nature06734.

[2] Vander Heiden MG, Locasale JW, Swanson KD, Sharfi H, Heffron GJ, Amador-Noguez D, Christofk HR, Wagner G, Rabinowitz JD, Asara JM, Cantley LC. Evidence for an alternative glycolytic pathway in rapidly proliferating cells. ***Science.*** 2010 Sep 17;329(5998):1492-9. doi: 10.1126/science.1188015.

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[4] Ashizawa K, McPhie P, Lin KH, Cheng SY. An in vitro novel mechanism of regulating the activity of pyruvate kinase M2 by thyroid hormone and fructose 1, 6-bisphosphate. ***Biochemistry.*** 1991 Jul 23;30(29):7105-11. doi: 10.1021/bi00243a010.

[5] Yang W, Xia Y, Ji H, Zheng Y, Liang J, Huang W, Gao X, Aldape K, Lu Z. Nuclear PKM2 regulates β-catenin transactivation upon EGFR activation. ***Nature.*** 2011 Dec 1;480(7375):118-22. doi: 10.1038/nature10598.