

#4053 Store at -20°C

PKM2 (D78A4) XP® Rabbit mAb



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Applications: WB, IP, IHC-P, IF-IC, FC-FP	Reactivity: H M R Mk	Sensitivity: Endogenous	MW (kDa): 60	Source/Isotype: Rabbit IgG	UniProt ID: #P14618	Entrez-Gene Id: 5315
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Product Usage Information	Application Western Blotting Immunoprecipitation Immunohistochemistry (Paraffin) Immunofluorescence (Immunocytochemistry) Flow Cytometry (Fixed/Permeabilized)	Dilution 1:1000 1:50 1:400 - 1:1600 1:50 - 1:200 1:50 - 1:200
Storage	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.	
Specificity / Sensitivity	PKM2 (D78A4) XP® Rabbit mAb detects endogenous levels of total PKM2 protein and does not cross-react with PKM1.	
Source / Purification	Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ser406 of human PKM2.	
Background	Pyruvate kinase is a glycolytic enzyme that catalyses the conversion of phosphoenolpyruvate to pyruvate. In mammals, the M1 isoform (PKM1) is expressed in most adult tissues (1). The M2 isoform (PKM2) is an alternatively spliced variant of M1 that is expressed during embryonic development (1). Research studies found that cancer cells exclusively express PKM2 (1-3). PKM2 is shown to be essential for aerobic glycolysis in tumors, known as the Warburg effect (1). When cancer cells switch from the M2 isoform to the M1 isoform, aerobic glycolysis is reduced and oxidative phosphorylation is increased (1). These cells also show decreased tumorigenicity in mouse xenografts (1). Recent studies showed that PKM2 is not essential for all tumor cells (4). In the tumor model studied, PKM2 was found to be active in the non-proliferative tumor cell population and inactive in the proliferative tumor cell population (4).	
Background References	1. Christofk, H.R. et al. (2008) <i>Nature</i> 452, 230-3. 2. Mazurek, S. et al. (2005) <i>Semin Cancer Biol</i> 15, 300-8. 3. Dombrackas, J.D. et al. (2005) <i>Biochemistry</i> 44, 9417-29. 4. Israelsen, W.J. et al. (2013) <i>Cell</i> 155, 397-409.	

Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Western Blot Buffer	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	WB: Western Blotting IP: Immunoprecipitation IHC-P: Immunohistochemistry (Paraffin) IF-IC: Immunofluorescence (Immunocytochemistry) FC-FP: Flow Cytometry (Fixed/Permeabilized)
Cross-Reactivity Key	H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus Mi: mink C: chicken Dm: D. melanogaster X: Xenopus Z: zebrafish B: bovine Dg: dog Pg: pig Sc: S. cerevisiae Ce: C. elegans Hr: horse GP: Guinea Pig Rab: rabbit All: all species expected
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