PKM2 Conjugated Antibody

Catalog No: #CJM001

Package Size: #CJM001-AF350 100ul #CJM001-AF405 100ul #CJM001-AF488 100ul #CJM001-AF555 100ul #CJM001-AF594 100ul #CJM001-AF647 100ul #CJM001-AF680 100ul #CJM001-AF750 100ul #CJM001-Biotin 100ul

Orders: order@signalwayantibody.com
Support: tech@signalwayantibody.com

Description

Product Name	PKM2 Conjugated Antibody
Host Species	Mouse
Clonality	Monoclonal
Species Reactivity	Hu
Immunogen Description	Recombinant human PKM2 protein
Conjugates	Biotin AF350 AF405 AF488 AF555 AF594 AF647 AF680 AF750
Other Names	PKM; PK3; OIP3; PK2;
Accession No.	Swiss-Prot#:P14618-1NCBI Protein#:NP_872270.1
Uniprot	P14618
GeneID	5315;
Excitation Emission	AF350: 346nm/442nm AF405: 401nm/421nm AF488: 493nm/519nm AF555: 555nm/565nm AF594: 591nm/614nm AF647: 651nm/667nm AF680: 679nm/702nm AF750: 749nm/775nm
Calculated MW	60
Formulation	0.01M Sodium Phosphate, 0.25M NaCl, pH 7.6, 5mg/ml Bovine Serum Albumin, 0.02% Sodium Azide
Storage	Store at 4°C in dark for 6 months

Application Details

Suggested Dilution:

AF350 conjugated: most applications: 1: 50 - 1: 250

AF405 conjugated: most applications: 1: 50 - 1: 250

AF488 conjugated: most applications: 1: 50 - 1: 250

AF555 conjugated: most applications: 1: 50 - 1: 250

AF594 conjugated: most applications: 1: 50 - 1: 250

AF647 conjugated: most applications: 1: 50 - 1: 250

AF680 conjugated: most applications: 1: 50 - 1: 250

AF750 conjugated: most applications: 1: 50 - 1: 250

Biotin conjugated: working with enzyme-conjugated streptavidin, most applications: 1: 50 - 1: 1,000

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 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, PKM2binds 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.

Note: This product is for in vitro research use only