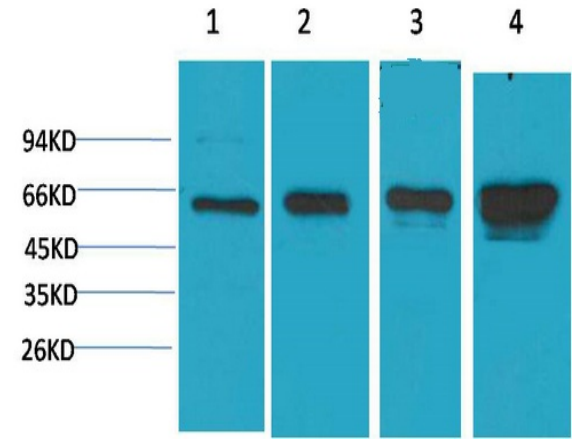
Best Tools for immunology Research

AMPK α1 Monoclonal Antibody(5G11)

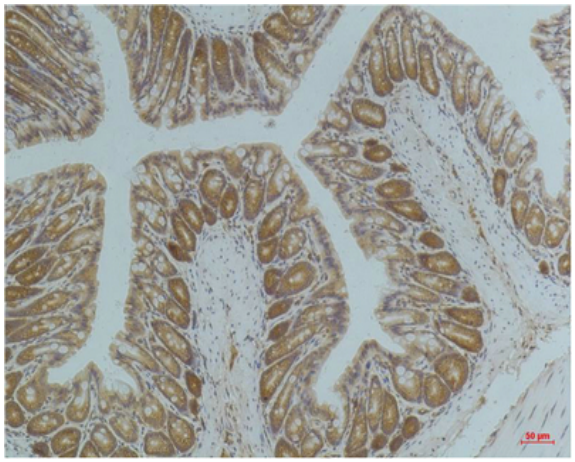
Catalog No :	YM3520
Reactivity :	Human
Applications :	WB;IHC;IF
Target :	AMPKα1
Fields :	>>FoxO signaling pathway;>>Autophagy - animal;>>mTOR signaling pathway;>>PI3K-Akt signaling pathway;>>AMPK signaling pathway;>>Longevity regulating pathway;>>Longevity regulating pathway - multiple species;>>Apelin signaling pathway;>>Tight junction;>>Circadian rhythm;>>Thermogenesis;>>Insulin signaling pathway;>>Adipocytokine signaling pathway;>>Oxytocin signaling pathway;>>Glucagon signaling pathway;>>Insulin resistance;>>Non-alcoholic fatty liver disease;>>Alcoholic liver disease;>>Hypertrophic cardiomyopathy;>>Fluid shear stress and atherosclerosis
Gene Name :	PRKAA1
Protein Name :	5'-AMP-activated protein kinase catalytic subunit alpha-1 (AMPK subunit alpha-1) (EC 2.7.11.1) (Acetyl-CoA carboxylase kinase) (ACACA kinase) (EC 2.7.11.27) (Hydroxymethylglutaryl-CoA reductase kinase
Human Gene Id :	5562
Human Swiss Prot No :	Q13131
Mouse Swiss Prot No :	Q5EG47
Rat Swiss Prot No :	P54645
Immunogen :	Synthetic Peptide of AMPK α1
Specificity :	AMPK α1 protein detects endogenous levels of AMPK α1
Formulation :	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Source :	Monoclonal, Mouse

Dilution :	WB 1:1000-2000, IHC 1:50-100. IF 1:50-200
Purification :	The antibody was affinity-purified from mouse ascites by affinity-chromatography using specific immunogen.
Concentration :	1 mg/ml
Storage Stability :	-15°C to -25°C/1 year(Do not lower than -25°C)
Observed Band :	63kD
Cell Pathway :	Regulation of autophagy;mTOR;Insulin_Receptor;Adipocytokine;Hypertrophic cardiomyopathy (HCM);
Background :	The protein encoded by this gene belongs to the ser/thr protein kinase family. It is the catalytic subunit of the 5'-prime-AMP-activated protein kinase (AMPK). AMPK is a cellular energy sensor conserved in all eukaryotic cells. The kinase activity of AMPK is activated by the stimuli that increase the cellular AMP/ATP ratio. AMPK regulates the activities of a number of key metabolic enzymes through phosphorylation. It protects cells from stresses that cause ATP depletion by switching off ATP-consuming biosynthetic pathways. Alternatively spliced transcript variants encoding distinct isoforms have been observed. [provided by RefSeq, Jul 2008],
Function :	catalytic activity:ATP + a protein = ADP + a phosphoprotein.,cofactor:Magnesium.,enzyme regulation:Binding of AMP results in allosteric activation, inducing phosphorylation on Thr-174 by STK11 in complex with STE20-related adapter-alpha (STRAD alpha) pseudo kinase and CAB39. Also activated by phosphorylation by CAMKK2 triggered by a rise in intracellular calcium ions, without detectable changes in the AMP/ATP ratio.,function:Responsible for the regulation of fatty acid synthesis by phosphorylation of acetyl-CoA carboxylase. It also regulates cholesterol synthesis via phosphorylation and inactivation of hormone-sensitive lipase and hydroxymethylglutaryl-CoA reductase. Appears to act as a metabolic stress-sensing protein kinase switching off biosynthetic pathways when cellular ATP levels are depleted and when 5'-AMP rises in response to fuel limitation and/or hypoxia. This is a catalytic s
Subcellular Location :	Cytoplasm . Nucleus . In response to stress, recruited by p53/TP53 to specific promoters. .
Expression :	Brain,Intestine,Liver,Mammary gland,Platelet,Testis

Products Images



Western blot analysis of 1)Hela, 2) 293T, 3)3T3, 4) PC12 with AMPK a1 Mouse mAb diluted at 1:2,000.



Immunohistochemical analysis of paraffin-embedded Mouse ColonTissue using AMPK a1 Mouse mAb diluted at 1:200.