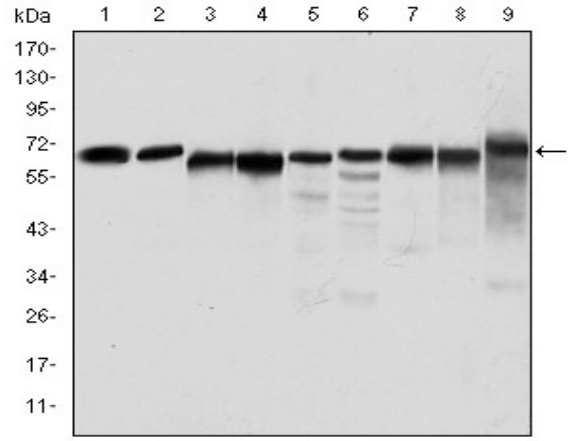
Best Tools for immunology Research

AMPKα1 Monoclonal Antibody

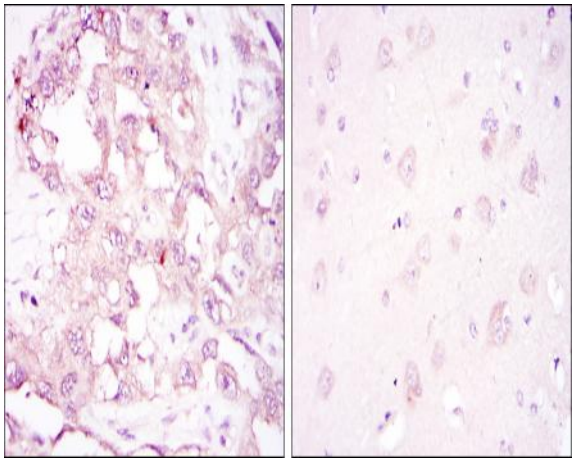
Catalog No :	YM0024
Reactivity :	Human;Mouse;Rat;Monkey
Applications :	WB;IHC;IF;FCM;ELISA
Target :	AMPKα1
Fields :	>>FoxO signaling pathway;>>Autophagy - animal;>>mTOR signaling pathway;>>PI3K-Akt signaling pathway;>>AMPK signaling pathway;>>Longevity regulating pathway;>>Longevity regulating pathway - 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 :	AAPK1
Protein Name :	5'-AMP-activated protein kinase catalytic subunit alpha-1
Human Gene Id :	5562
Human Swiss Prot No :	Q13131
Mouse Gene Id :	105787
Mouse Swiss Prot No :	Q5EG47
Rat Gene Id :	65248
Rat Swiss Prot No :	P54645
Immunogen :	Purified recombinant fragment of human AMPKα1 expressed in E. Coli.
Specificity :	AMPKα1 Monoclonal Antibody detects endogenous levels of AMPKα1 protein.
	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.

Source/Isotype :	Monoclonal, Mouse
Dilution :	WB 1:500 - 1:2000. IHC 1:200 - 1:1000. IF 1:200 - 1:1000. Flow cytometry: 1:200 - 1:400. ELISA: 1:10000. Not yet tested in other applications.
Purification :	Affinity purification
Storage Stability :	-15°C to -25°C/1 year(Do not lower than -25°C)
Molecularweight :	64kD
Cell Pathway :	Insulin Receptor; mTOR; AMPK
P References :	1. Oncol Rep. 2008 Dec;20(6):1553-9. 2. Placenta. 2008 Dec;29(12):1003-8.
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

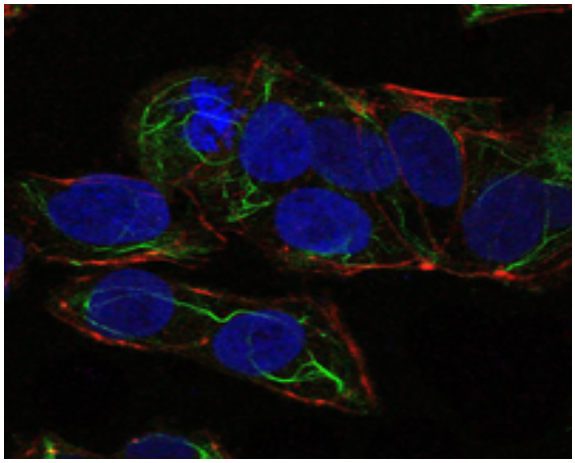
Products Images



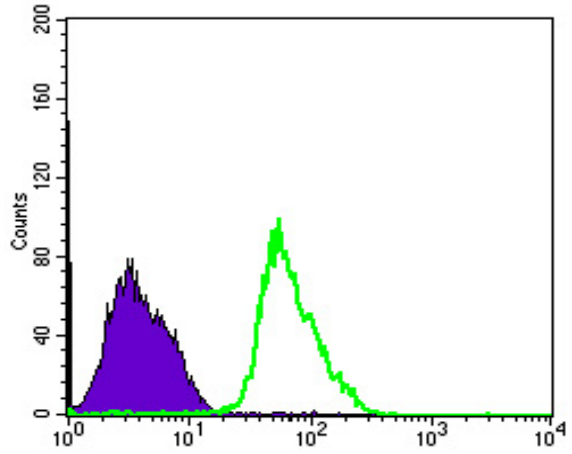
Western Blot analysis using AMPKα1 Monoclonal Antibody against Jurkat (1), HeLa (2), HepG2 (3), MCF-7 (4), Cos7 (5), NIH/3T3 (6), K562 (7), HEK293 (8), and PC-12 (9) cell lysate.



Immunohistochemistry analysis of paraffin-embedded ovarian cancer (left) and brain tissues (right) with DAB staining using AMPKα1 Monoclonal Antibody.



Immunofluorescence analysis of NTERA-2 cells using AMPKα1 Monoclonal Antibody (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.



Flow cytometric analysis of PC-2 cells using AMPKα1 Monoclonal Antibody (green) and negative control (purple).