

## AMPK $\alpha$ 1 Monoclonal Antibody

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

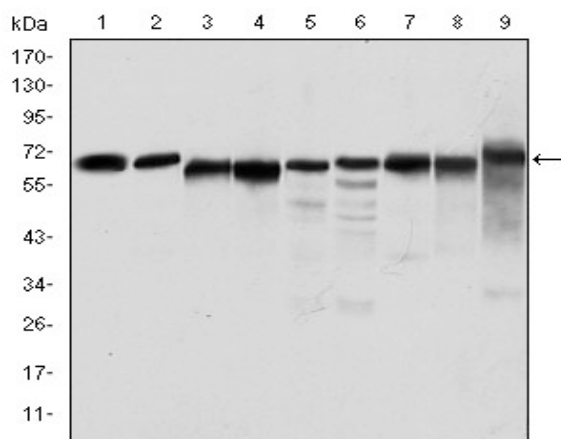
<b>Formulation :</b>	Monoclonal, Mouse
<b>Dilution :</b>	WB 1:500 - 1:2000. IHC 1:200 - 1:1000. IF 1:200 - 1:1000. Flow cytometry: 1:200 - 1:400. ELISA: 1:10000. Not yet tested in other applications.
<b>Purification :</b>	Affinity purification
<b>Storage Stability :</b>	-15°C to -25°C/1 year(Do not lower than -25°C)
<b>Molecularweight :</b>	64kD
<b>Cell Pathway :</b>	Insulin Receptor; mTOR; AMPK
<b>P References :</b>	1. Oncol Rep. 2008 Dec;20(6):1553-9. 2. Placenta. 2008 Dec;29(12):1003-8.
<b>Background :</b>	<p>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],</p>
<b>Function :</b>	<p>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</p>
<b>Subcellular Location :</b>	Cytoplasm . Nucleus . In response to stress, recruited by p53/TP53 to specific promoters. .
<b>Expression :</b>	Brain,Intestine,Liver,Mammary gland,Platelet,Testis
<b>Sort :</b>	1976

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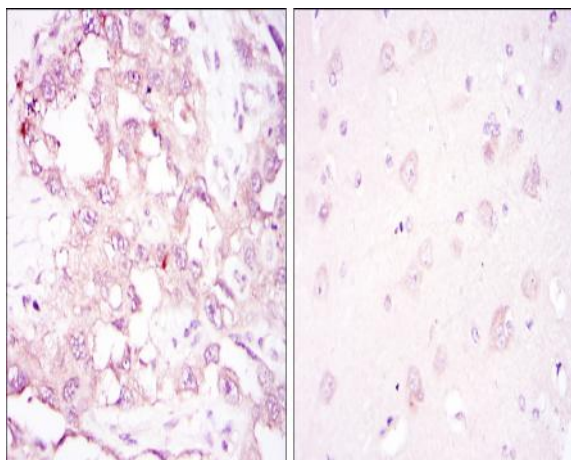
<b>No4 :</b>	1
<b>Host :</b>	Mouse
<b>Modifications :</b>	Unmodified

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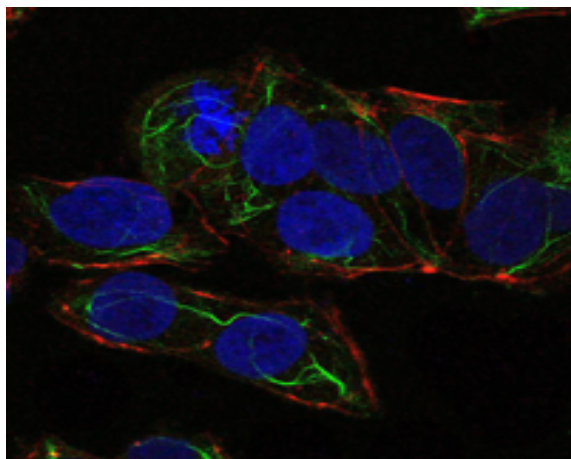
## Products Images



Western Blot analysis using AMPK $\alpha$ 1 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 AMPK $\alpha$ 1 Monoclonal Antibody.



Immunofluorescence analysis of NTERA-2 cells using AMPK $\alpha$ 1 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).

