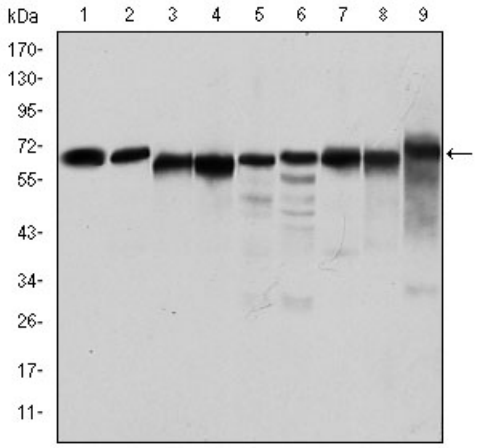
AMPKα1 Monoclonal Antibody

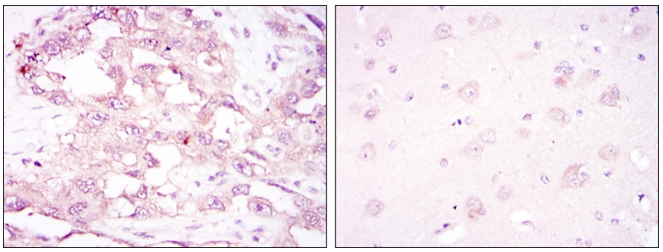
Catalog No	BYab-14116
Isotype	IgG
Reactivity	Human;Mouse;Rat;Monkey
Applications	WB;IHC;IF;FCM;ELISA
Gene Name	AAPK1
Protein Name	5'-AMP-activated protein kinase catalytic subunit alpha-1
Immunogen	Purified recombinant fragment of human AMPKα1 expressed in E. Coli.
Specificity	AMPKα1 Monoclonal Antibody detects endogenous levels of AMPKα1 protein.
Formulation	Ascitic fluid containing 0.03% sodium azide,0.5% BSA, 50%glycerol.
Source	Monoclonal, Mouse
Purification	Affinity purification
Dilution	Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/200 - 1/1000. Immunofluorescence: 1/200 - 1/1000. Flow cytometry: 1/200 - 1/400. ELISA: 1/10000. Not yet tested in other applications.
Concentration	1 mg/ml
Purity	≥90%
Storage Stability	-20°C/1 year
Synonyms	PRKAA1;AMPK1;5'-AMP-activated protein kinase catalytic subunit alpha-1;AMPK subunit alpha-1;Acetyl-CoA carboxylase kinase;ACACA kinase
Observed Band	
Cell Pathway	Cytoplasm . Nucleus . In response to stress, recruited by p53/TP53 to specific promoters. .
Tissue Specificity	Brain,Intestine,Liver,Mammary gland,Platelet,Testis
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
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],
matters needing attention	Avoid repeated freezing and thawing!
Usage suggestions	This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.

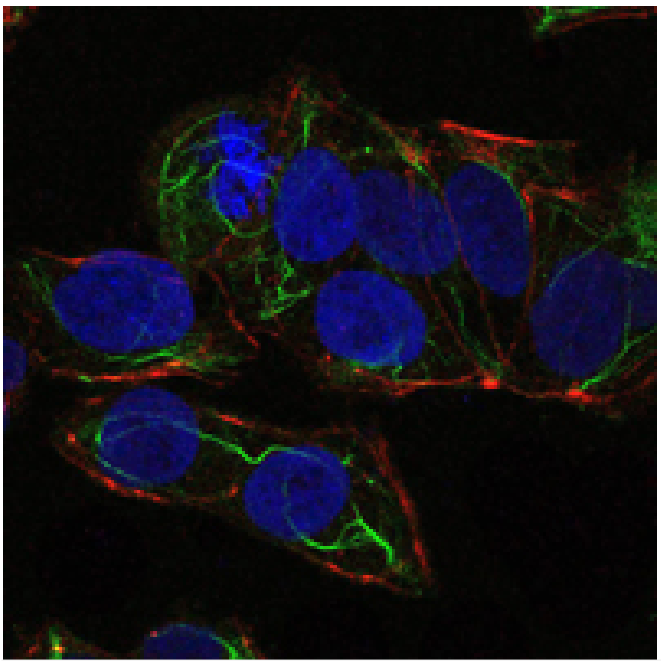
Products Images



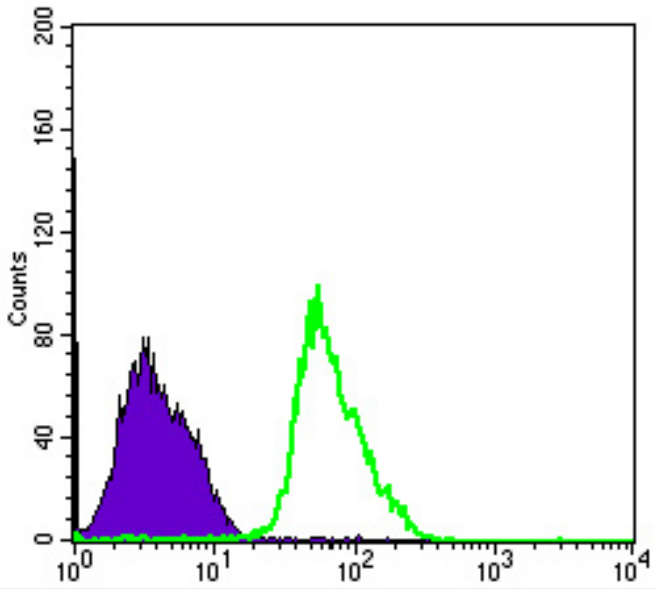
Western Blot analysis using AMPKα1 Monoclonal Antibody against Jurkat (1), HeLa (2), HepG2 (3), MCF-7 (4), Cos7 (5), NIH/3T3 (6), K562 (7), HEK293 (8), and PC-12 (9) cell lysate.



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).