



AMPK α 1 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 AMPK α 1 expressed in E. Coli.
Specificity	AMPK α 1 Monoclonal Antibody detects endogenous levels of AMPK α 1 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

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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!

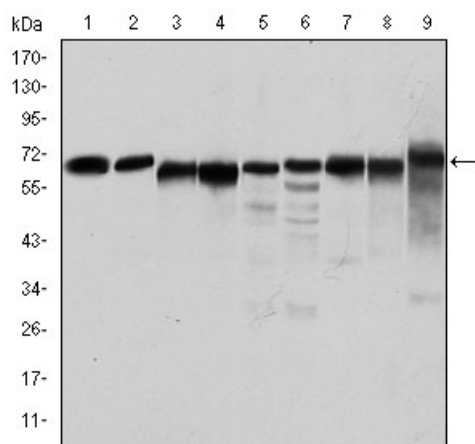
Usage suggestions

This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.

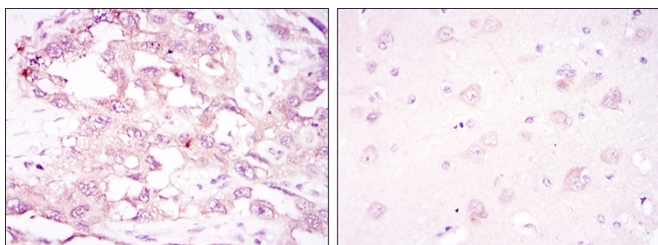
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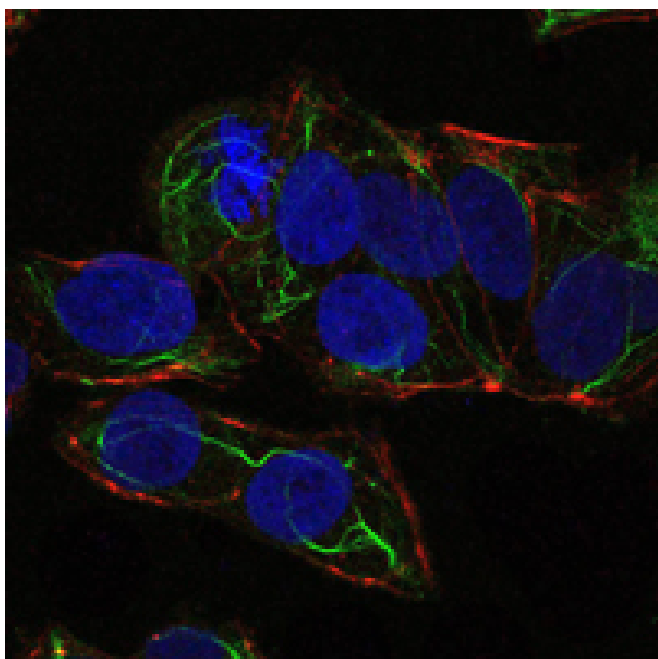
Products Images



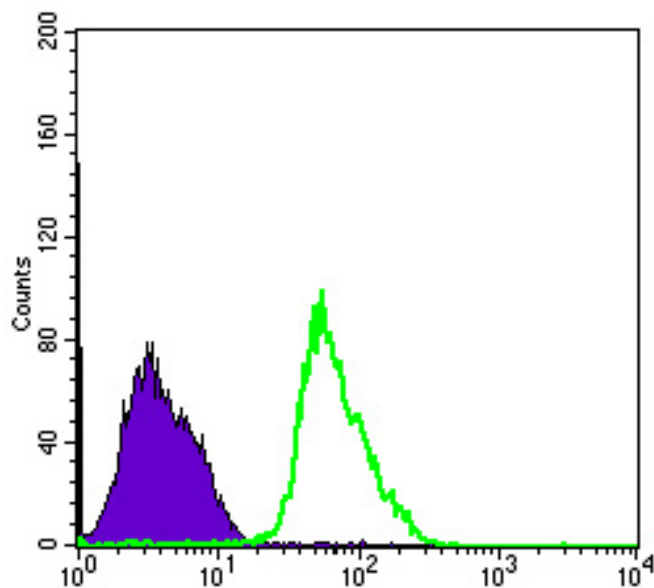
Western Blot analysis using AMPK α 1 Monoclonal Antibody against Jurkat (1), HeLa (2), HepG2 (3), MCF-7 (4), Cos7 (5), NIH/3T3 (6), K562 (7), HEK293 (8), and PC-12 (9) cell lysate.



Immunohistochemistry analysis of paraffin-embedded ovarian cancer (left) and brain tissues (right) with DAB staining using AMPK α 1 Monoclonal Antibody.



Immunofluorescence analysis of NTERA-2 cells using AMPK α 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 AMPK α 1 Monoclonal Antibody (green) and negative control (purple).

