



AMPK α 1 Monoclonal Antibody(5G11)

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| Catalog No | BYab-14247 |
| Isotype | IgG |
| Reactivity | Human;Rat;Mouse |
| Applications | WB;IHC;IF |
| 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) |
| Immunogen | Synthetic Peptide of AMPK α 1 |
| Specificity | AMPK α 1 protein detects endogenous levels of AMPK α 1 |
| Formulation | Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide. |
| Source | Monoclonal, Mouse |
| Purification | The antibody was affinity-purified from mouse ascites by affinity-chromatography using specific immunogen. |
| Dilution | WB 1:1000-2000, IHC 1:50-100. IF 1:50-200 |
| Concentration | 1 mg/ml |
| Purity | \geq 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; Hydroxymethylglutaryl-CoA reductase kinase; HMGCR kinase; Tau-protein kinase PRKAA1 |
| Observed Band | 63kD |
| 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 |

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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'-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

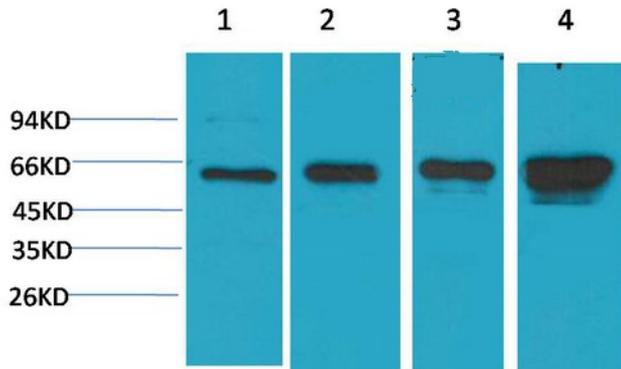
Avoid repeated freezing and thawing!

Usage suggestions

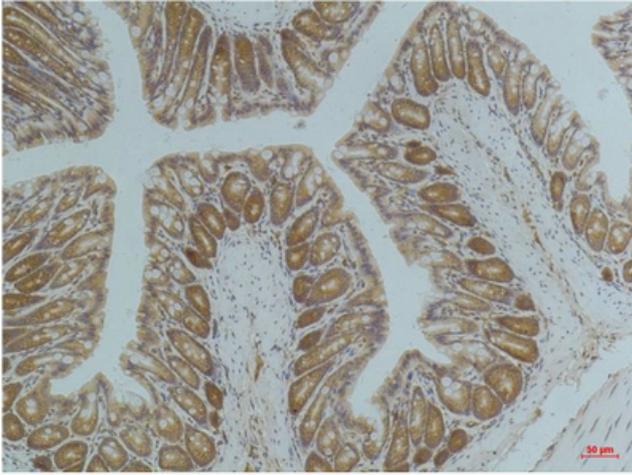
This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.



Products Images



Western blot analysis 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.