



AMPK α 1 (phospho Ser496) Polyclonal Antibody

Catalog No	YP-Ab-14296
Isotype	IgG
Reactivity	Human;Mouse;Rat;Canine;Fish
Applications	WB;IHC;IF;ELISA
Gene Name	PRKAA1
Protein Name	5'-AMP-activated protein kinase catalytic subunit alpha-1
Immunogen	The antiserum was produced against synthesized peptide derived from human AMPK1 around the phosphorylation site of Ser496. AA range:451-500
Specificity	Phospho-AMPK α 1 (S496) Polyclonal Antibody detects endogenous levels of AMPK α 1 protein only when phosphorylated at S496.
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Source	Polyclonal, Rabbit,IgG
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Dilution	WB: 1/500 - 1/2000. IHC: 1/100 - 1/300. ELISA: 1/20000.. IF 1:50-200
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; Hydroxymethylglutaryl-CoA reductase kinase; HMGCR kinase; Tau-protein kinase PRKAA1
Observed Band	62kD
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],

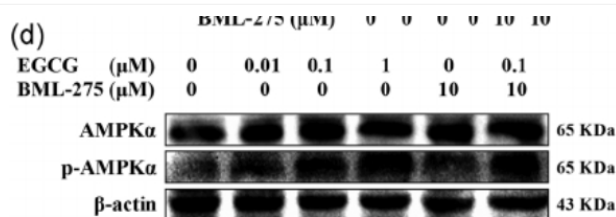
matters needing attention

Avoid repeated freezing and thawing!

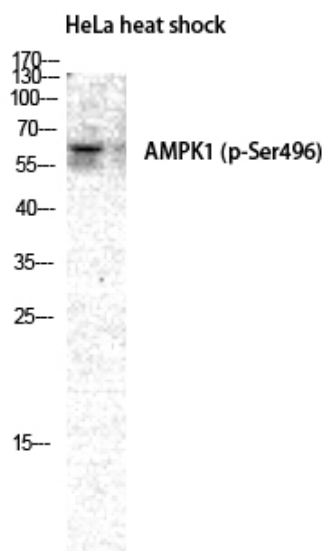
Usage suggestions

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

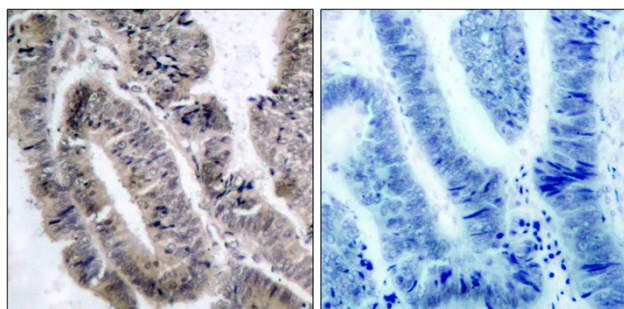
Products Images



Ding, Hongyan, et al. "Epigallocatechin-3-gallate activates the AMP-activated protein kinase signaling pathway to reduce lipid accumulation in canine hepatocytes." *Journal of Cellular Physiology* 236.1 (2021): 405-416.



Western Blot analysis of HELA cells using Phospho-AMPKα1 (S496) Polyclonal Antibody diluted at 1:2000



Immunohistochemistry analysis of paraffin-embedded human colon carcinoma, using AMPK1 (Phospho-Ser485) Antibody. The picture on the right is blocked with the phospho peptide.