



# AMPK $\alpha$ 1 (phospho Ser496) Polyclonal Antibody

<b>Catalog No</b>	BYab-14296
<b>Isotype</b>	IgG
<b>Reactivity</b>	Human;Mouse;Rat;Canine;Fish
<b>Applications</b>	WB;IHC;IF;ELISA
<b>Gene Name</b>	PRKAA1
<b>Protein Name</b>	5'-AMP-activated protein kinase catalytic subunit alpha-1
<b>Immunogen</b>	The antiserum was produced against synthesized peptide derived from human AMPK1 around the phosphorylation site of Ser496. AA range:451-500
<b>Specificity</b>	Phospho-AMPK $\alpha$ 1 (S496) Polyclonal Antibody detects endogenous levels of AMPK $\alpha$ 1 protein only when phosphorylated at S496.
<b>Formulation</b>	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
<b>Source</b>	Polyclonal, Rabbit,IgG
<b>Purification</b>	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
<b>Dilution</b>	WB: 1/500 - 1/2000. IHC: 1/100 - 1/300. ELISA: 1/20000.. IF 1:50-200
<b>Concentration</b>	1 mg/ml
<b>Purity</b>	≥90%
<b>Storage Stability</b>	-20°C/1 year
<b>Synonyms</b>	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
<b>Observed Band</b>	62kD
<b>Cell Pathway</b>	Cytoplasm . Nucleus . In response to stress, recruited by p53/TP53 to specific promoters. .
<b>Tissue Specificity</b>	Brain,Intestine,Liver,Mammary gland,Platelet,Testis
<b>Function</b>	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**

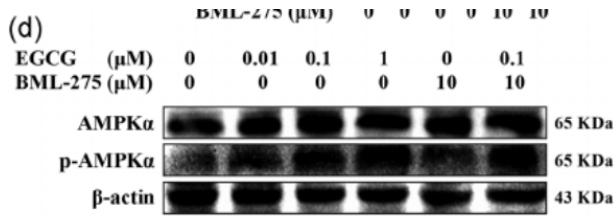
Avoid repeated freezing and thawing!

**Usage suggestions**

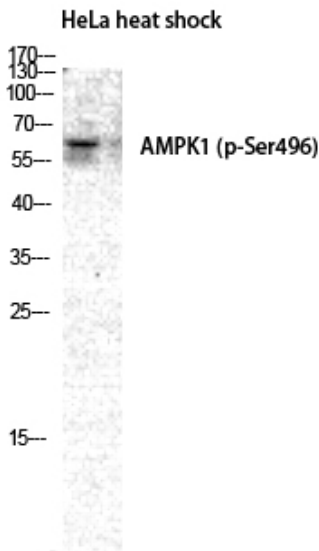
This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.



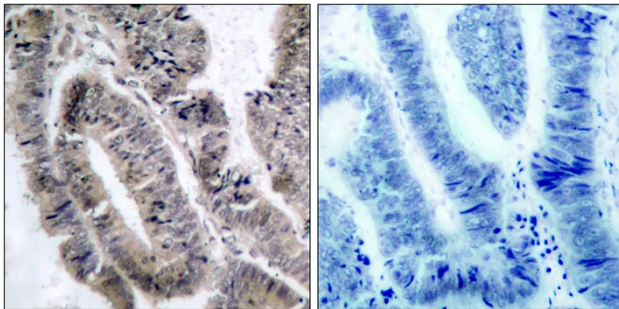
## Products Images



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-AMPK $\alpha$ 1 (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.