



AMPK α 1/2 (phospho Thr183/172) Polyclonal Antibody

Catalog No	YP-Ab-14424
Isotype	IgG
Reactivity	Human;Mouse;Rat;Monkey;Pig;Marsupenaeus japonicus
Applications	IF;WB;IHC;ELISA
Gene Name	AAPK1/AAPK2
Protein Name	5'-AMP-activated protein kinase catalytic subunit alpha-1/2
Immunogen	The antiserum was produced against synthesized peptide derived from human AMPK alpha around the phosphorylation site of Thr172. AA range:140-189
Specificity	Phospho-AMPK α 1/2 (T183/172) Polyclonal Antibody detects endogenous levels of AMPK α 1/2 protein only when phosphorylated at T183/172.
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	IF: 1:50-200 Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. ELISA: 1/40000. 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; Hydroxymethylglutaryl-CoA reductase kinase; HMGCR kinase; Tau-protein kinase PRKAA1; PRKAA2; AMPK;
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 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

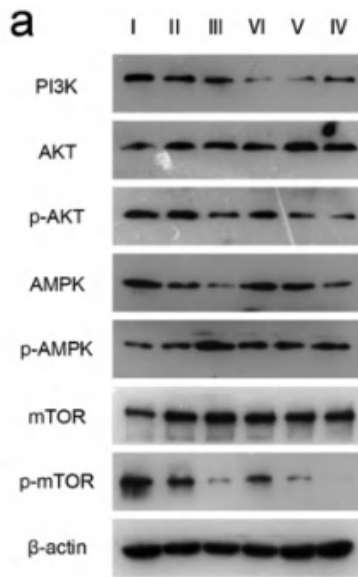
Avoid repeated freezing and thawing!

Usage suggestions

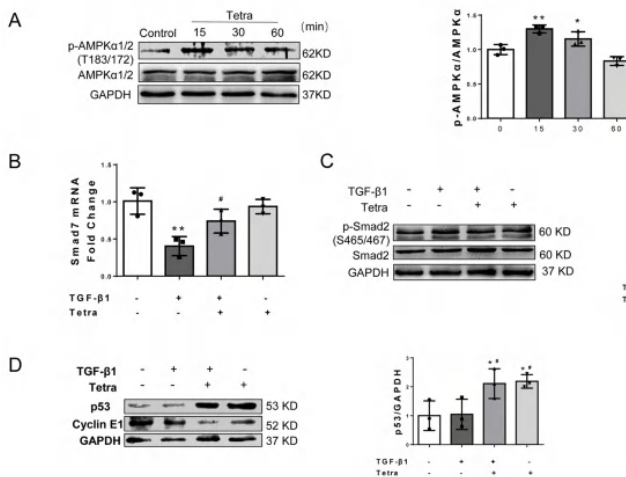
This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.



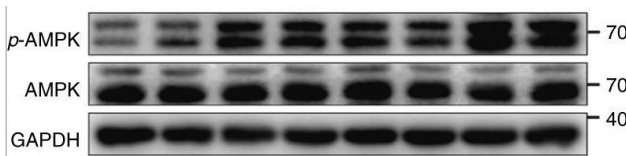
Products Images



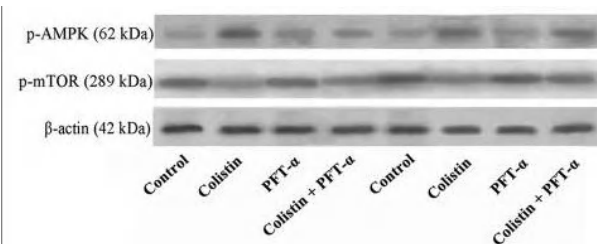
Kang, Min, et al. "Autophagy was activated against the damages of placentas caused by nano-copper oral exposure." *Ecotoxicology and Environmental Safety* 220 (2021): 112364.



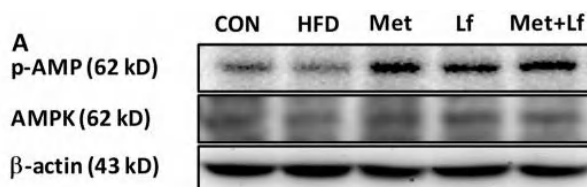
Gao, L., Wang, Ly., Liu, Zq. et al. TNAP inhibition attenuates cardiac fibrosis induced by myocardial infarction through deactivating TGF-β1/Smads and activating P53 signaling pathways. *Cell Death Dis* 11, 44 (2020)



Guo, Hui-Hui, et al. "Liver-target nanotechnology facilitates berberine to ameliorate cardio-metabolic diseases." *Nature communications* 10.1 (2019): 1981.



Zhang, Ling, et al. "P53 mediates colistin-induced autophagy and apoptosis in PC-12 cells." *Antimicrobial agents and chemotherapy* (2016): AAC-00641.



Min, Qing-Qing, et al. "Effects of Metformin Combined with Lactoferrin on Lipid Accumulation and Metabolism in Mice Fed with High-Fat Diet." *Nutrients* 10.11 (2018): 1628.