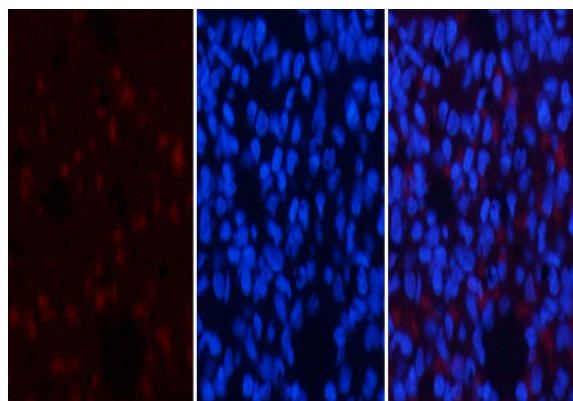


AMPK α 1 Polyclonal Antibody

Catalog No :	YT0215
Reactivity :	Human;Mouse;Rat
Applications :	WB;IHC;IF;ELISA
Target :	AMPK α 1
Fields :	>>FoxO signaling pathway;>>Autophagy - animal;>>mTOR signaling pathway;>>PI3K-Akt signaling pathway;>>AMPK signaling pathway;>>Longevity regulating pathway;>>Longevity regulating pathway - multiple species;>>Apelin signaling pathway;>>Tight junction;>>Circadian rhythm;>>Thermogenesis;>>Insulin signaling pathway;>>Adipocytokine signaling pathway;>>Oxytocin signaling pathway;>>Glucagon signaling pathway;>>Insulin resistance;>>Non-alcoholic fatty liver disease;>>Alcoholic liver disease;>>Hypertrophic cardiomyopathy;>>Fluid shear stress and atherosclerosis
Gene Name :	PRKAA1
Protein Name :	5'-AMP-activated protein kinase catalytic subunit alpha-1
Human Gene Id :	5562
Human Swiss Prot No :	Q13131
Mouse Gene Id :	105787
Mouse Swiss Prot No :	Q5EG47
Rat Gene Id :	65248
Rat Swiss Prot No :	P54645
Immunogen :	The antiserum was produced against synthesized peptide derived from human AMPK1. AA range:451-500
Specificity :	AMPK α 1 Polyclonal Antibody detects endogenous levels of AMPK α 1 protein.

Formulation :	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Source :	Polyclonal, Rabbit,IgG
Dilution :	WB 1:500 - 1:2000. IHC 1:100 - 1:300. IF 1:200 - 1:1000. ELISA: 1:10000. Not yet tested in other applications.
Purification :	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Concentration :	1 mg/ml
Storage Stability :	-15°C to -25°C/1 year(Do not lower than -25°C)
Observed Band :	65kD
Cell Pathway :	Insulin Receptor; mTOR; AMPK
Background :	<p>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],</p>
Function :	<p>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</p>
Subcellular Location :	Cytoplasm . Nucleus . In response to stress, recruited by p53/TP53 to specific promoters. .
Expression :	Brain,Intestine,Liver,Mammary gland,Platelet,Testis

Products Images

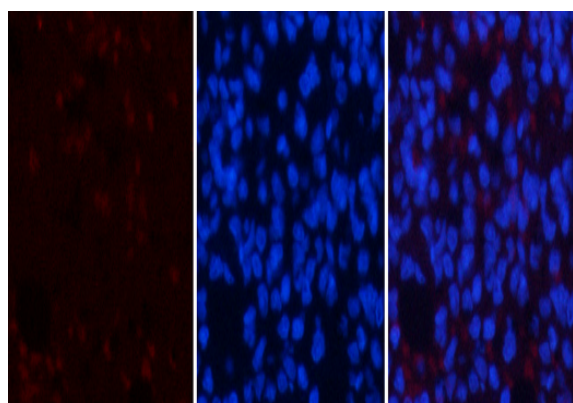


A

B

C

Immunofluorescence analysis of rat-lung tissue. 1, AMPK α 1 Polyclonal Antibody (red) was diluted at 1:200 (4 °C, overnight). 2, Cy3 labeled Secondary antibody was diluted at 1:300 (room temperature, 50min). 3, Picture B: DAPI (blue) 10min. Picture A: Target. Picture B: DAPI. Picture C: merge of A+B

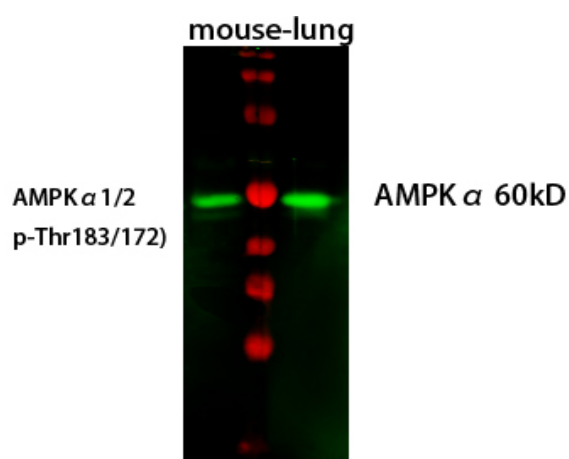


A

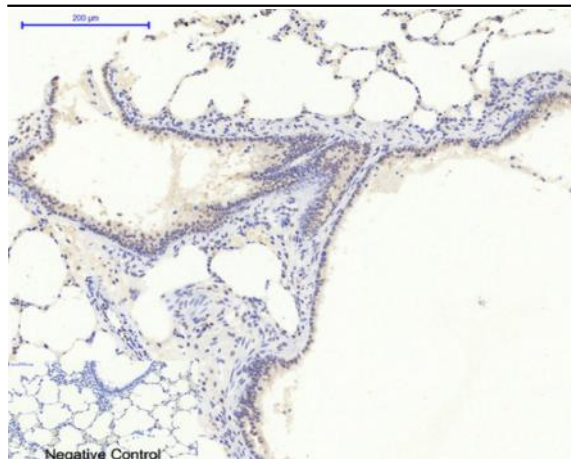
B

C

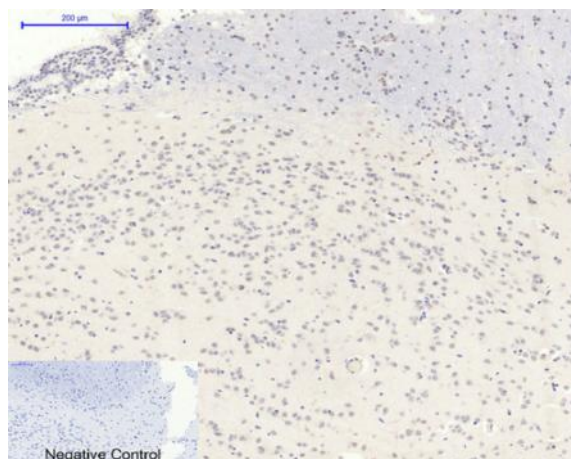
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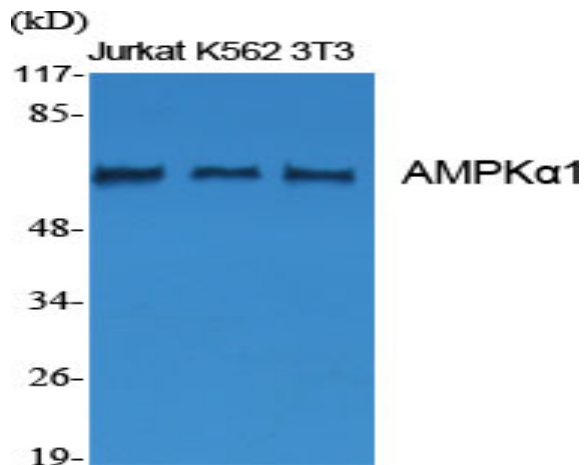
Western Blot analysis of mouse-lung cells using primary antibody diluted at 1:1000 (4 °C overnight). Secondary antibody: Goat Anti-rabbit IgG IRDye 800 (diluted at 1:5000, 25 °C, 1 hour). Cell lysate was extracted by Minute™ Plasma Membrane Protein Isolation and Cell Fractionation Kit (SM-005, Inventibiotec, MN, USA).



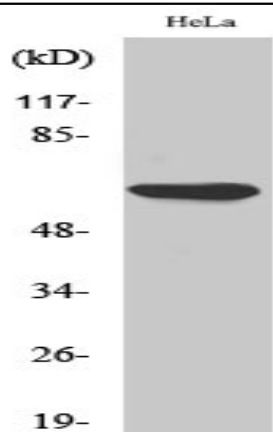
Immunohistochemical analysis of paraffin-embedded Rat-lung tissue. 1, AMPK α 1 Polyclonal Antibody was diluted at 1:200(4°C, overnight). 2, Sodium citrate pH 6.0 was used for antibody retrieval(>98°C, 20min). 3, Secondary antibody was diluted at 1:200(room temperature, 30min). Negative control was used by secondary antibody only.



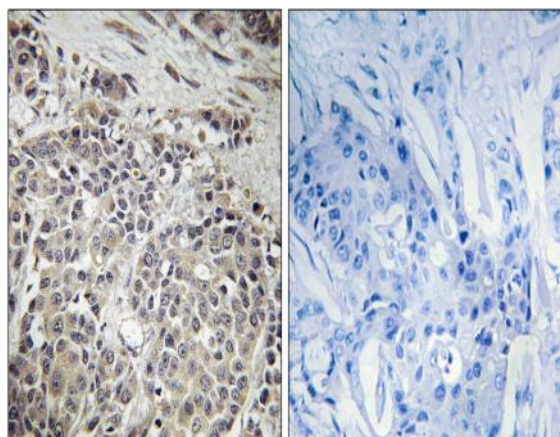
Immunohistochemical analysis of paraffin-embedded Rat-brain tissue. 1, AMPK α 1 Polyclonal Antibody was diluted at 1:200(4°C, overnight). 2, Sodium citrate pH 6.0 was used for antibody retrieval(>98°C, 20min). 3, Secondary antibody was diluted at 1:200(room temperature, 30min). Negative control was used by secondary antibody only.



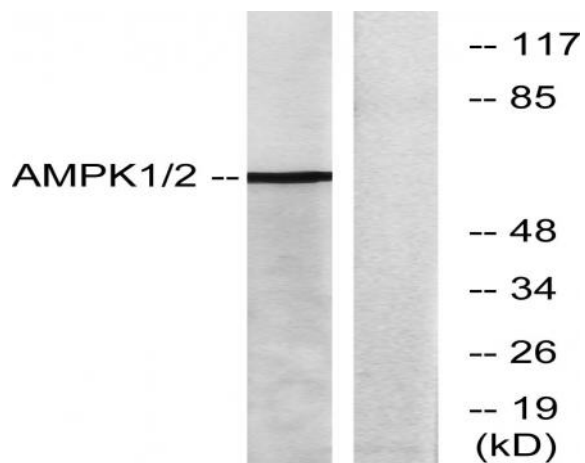
Western Blot analysis of various cells using AMPK α 1 Polyclonal Antibody diluted at 1:1000



Western Blot analysis of HeLa cells using AMPK α 1 Polyclonal Antibody diluted at 1:1000



Immunohistochemistry analysis of paraffin-embedded human breast carcinoma tissue, using AMPK1 Antibody. The picture on the right is blocked with the synthesized peptide.



Western blot analysis of lysates from HT29 cells, using AMPK1 Antibody. The lane on the right is blocked with the synthesized peptide.