

## Summary

<b>Production Name</b>	AMPK $\alpha$ 1/2 Rabbit Polyclonal Antibody
<b>Description</b>	Rabbit Polyclonal Antibody
<b>Host</b>	Rabbit
<b>Application</b>	WB,IHC,IF,ELISA
<b>Reactivity</b>	Human,Mouse,Rat,Monkey,Bovine,Fish

## Performance

<b>Conjugation</b>	Unconjugated
<b>Modification</b>	Unmodified
<b>Isotype</b>	IgG
<b>Clonality</b>	Polyclonal
<b>Form</b>	Liquid
<b>Storage</b>	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.
<b>Buffer</b>	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% New type preservative N.
<b>Purification</b>	Affinity purification

## Immunogen

<b>Gene Name</b>	AAPK1/AAPK2 PRKAA1; AMPK1; 5'-AMP-activated protein kinase catalytic subunit alpha-1; AMPK subunit alpha-1; Acetyl-CoA carboxylase kinase; ACACA kinase;
<b>Alternative Names</b>	Hydroxymethylglutaryl-CoA reductase kinase; HMGCR kinase; Tau-protein kinase PRKAA1; PRKAA2; AMPK;
<b>Gene ID</b>	5562/5563
<b>SwissProt ID</b>	Q13131/P54646.The antiserum was produced against synthesized peptide derived from human AMPK alpha. AA range:140-189

## Application

<b>Dilution Ratio</b>	WB 1:500-2000;IHC-p 1:100-500;IF ICC 1:100-500;ELISA 1:5000-20000
<b>Molecular Weight</b>	63kD

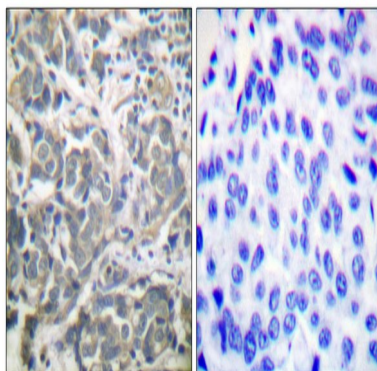
## Background

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],catalytic activity:ATP + a phosphoprotein.<sub>cofactor:Magnesium</sub>.,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 subunit.,sequence caution:Translation N-terminally shortened.,similarity:Belongs to the protein kinase superfamily.,similarity:Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. SNF1 subfamily.,similarity:Contains 1 protein kinase domain.,subunit:Heterotrimer of an alpha catalytic subunit, a beta and a gamma non-catalytic subunits. Interacts with FNIP1 and FNIP2.,

## Research Area

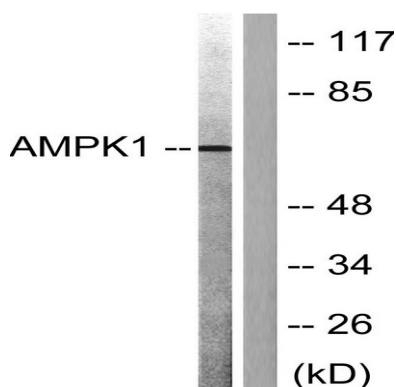
Insulin Receptor; mTOR; AMPK

## Image Data

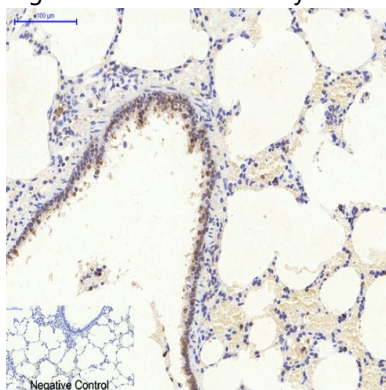


Immunohistochemistry analysis of paraffin-embedded human breast carcinoma tissue, using AMPK alpha Antibody. The picture on the right is blocked with the synthesized peptide.

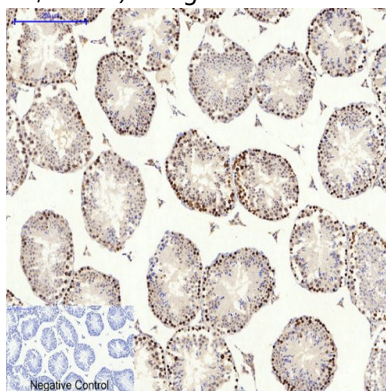
**Product Name: AMPK $\alpha$ 1/2 Rabbit Polyclonal Antibody**  
**Catalog #: APRab06848**



Western blot analysis of lysates from COS7 cells, treated with Adriamycin 0.5ng/ml 24h, using AMPK alpha Antibody. The lane on the right is blocked with the synthesized peptide.

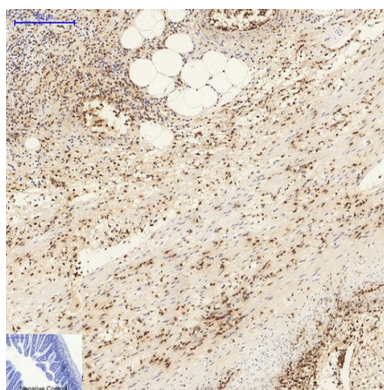


Immunohistochemical analysis of paraffin-embedded Rat-lung tissue. 1,AMPK $\alpha$ 1/2 Polyclonal Antibody was diluted at 1:200 (4°C,overnight) . 2, Sodium citrate pH 6.0 was used for antibody retrieval (>98°C,20min) . 3,Secondary antibody was diluted at 1:200 (room tempeRature, 30min) . Negative control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

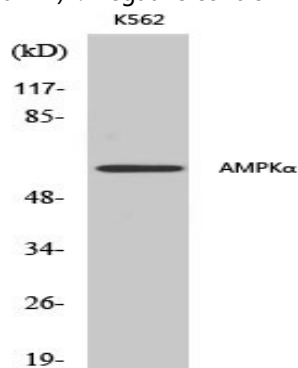


Immunohistochemical analysis of paraffin-embedded Mouse-testis tissue. 1,AMPK $\alpha$ 1/2 Polyclonal Antibody was diluted at 1:200 (4°C,overnight) . 2, Sodium citrate pH 6.0 was used for antibody retrieval (>98°C,20min) . 3,Secondary antibody was diluted at 1:200 (room tempeRature, 30min) . Negative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

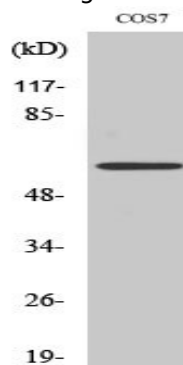
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Immunohistochemical analysis of paraffin-embedded Mouse-colon tissue. 1,AMPK $\alpha$ 1/2 Polyclonal Antibody was diluted at 1:200 (4°C,overnight) . 2, Sodium citrate pH 6.0 was used for antibody retrieval (>98°C,20min) . 3,Secondary antibody was diluted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

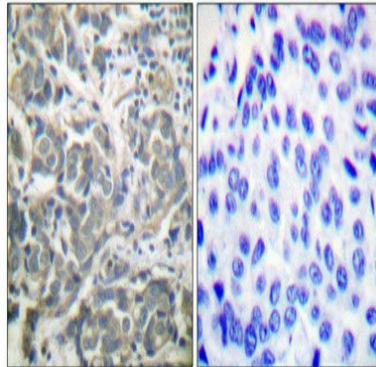


Western Blot analysis of various cells using AMPK $\alpha$ 1/2 Polyclonal Antibody diluted at 1: 500



Western Blot analysis of COS7 cells using AMPK $\alpha$ 1/2 Polyclonal Antibody diluted at 1: 500

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Immunohistochemical analysis of paraffin-embedded Human breast cancer. Antibody was diluted at 1:100 (4 $^{\circ}$ ,overnight) . High-pressure and temperature Tris-EDTA,pH8.0 was used for antigen retrieval. Negative contrl (right) obtaned from antibody was pre-absorbed by immunogen peptide.

### **Note**

For research use only.