

AMPK α 1 Mouse mAb

CatalogNo: YM0024

Key Features

Host Species

- Mouse

Reactivity

- Human, Mouse, Rat, Monkey

Applications

- WB, IHC, IF, FC, ELISA

MW

- 64kD (Calculated)

Recommended Dilution Ratios

WB 1:500-1:2000**IHC 1:200-1:1000****IF 1:200-1:1000****Flow Cyt 1:200-1:400****ELISA 1:10000****Not yet tested in other applications.**

Storage

Storage* -15°C to -25°C/1 year(Do not lower than -25°C)**Formulation** Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.

Basic Information

Clonality Monoclonal**Clone Number** 5G11

Immunogen Information

Immunogen Purified recombinant fragment of human AMPK α 1 expressed in E. Coli.**Specificity** AMPK α 1 Monoclonal Antibody detects endogenous levels of AMPK α 1 protein.

Target Information

Gene name AAPK1

Protein Name 5'-AMP-activated protein kinase catalytic subunit alpha-1

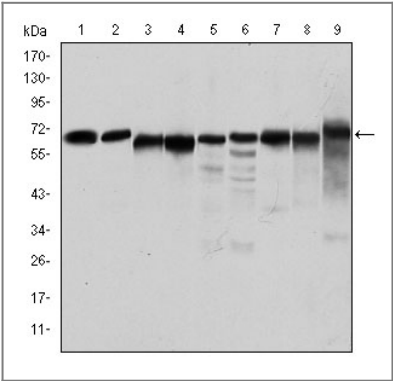
Organism	Gene ID	UniProt ID
Human	5562 ;	Q13131 ;
Mouse	105787 ;	Q5EG47 ;
Rat	65248 ;	P54645 ;

Cellular Localization Cytoplasm . Nucleus . In response to stress, recruited by p53/TP53 to specific promoters. .

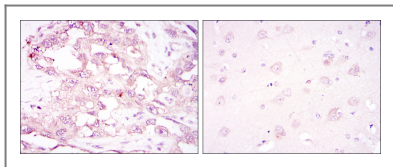
Tissue specificity Brain,Intestine,Liver,Mammary gland,Platelet,Testis

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 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.,

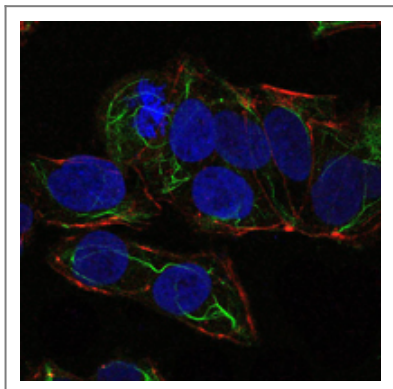
Validation Data



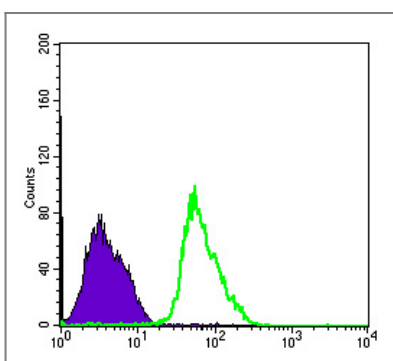
Western Blot analysis using AMPKα1 Monoclonal Antibody against Jurkat (1), HeLa (2), HepG2 (3), MCF-7 (4), Cos7 (5), NIH/3T3 (6), K562 (7), HEK293 (8), and PC-12 (9) cell lysate.



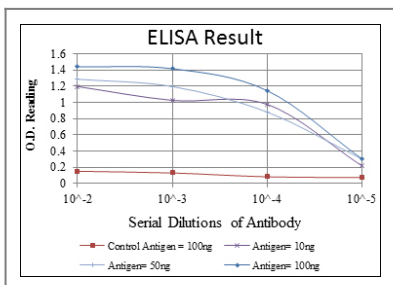
Immunohistochemistry analysis of paraffin-embedded ovarian cancer (left) and brain tissues (right) with DAB staining using AMPK α 1 Monoclonal Antibody.



Immunofluorescence analysis of NTERA-2 cells using AMPK α 1 Monoclonal Antibody (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.



Flow cytometric analysis of PC-2 cells using AMPK α 1 Monoclonal Antibody (green) and negative control (purple).



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AMPK α 1 Mouse mAb