

Datasheet for ABIN2170161

anti-PRKAA1 antibody (AA 351-450)**5** Images[Go to Product page](#)

Overview

Quantity:	100 µL
Target:	PRKAA1
Binding Specificity:	AA 351-450
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This PRKAA1 antibody is un-conjugated
Application:	Western Blotting (WB), ELISA, Immunohistochemistry (Paraffin-embedded Sections) (IHC (p)), Flow Cytometry (FACS)

Product Details

Immunogen:	KLH conjugated synthetic peptide derived from human AMPK alpha-1
Isotype:	IgG
Cross-Reactivity:	Human, Mouse, Rat
Predicted Reactivity:	Cow, Sheep, Rabbit
Purification:	Purified by Protein A.

Target Details

Target:	PRKAA1
Alternative Name:	AMPK alpha-1 (PRKAA1 Products)

Target Details

Background:	<p>Synonyms: AMPK, AMPKa1, 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, PRKAA1, AMPK1</p> <p>Background: Catalytic subunit of AMP-activated protein kinase (AMPK), an energy sensor protein kinase that plays a key role in regulating cellular energy metabolism. In response to reduction of intracellular ATP levels, AMPK activates energy-producing pathways and inhibits energy-consuming processes: inhibits protein, carbohydrate and lipid biosynthesis, as well as cell growth and proliferation. AMPK acts via direct phosphorylation of metabolic enzymes, and by longer-term effects via phosphorylation of transcription regulators. Also acts as a regulator of cellular polarity by remodeling the actin cytoskeleton, probably by indirectly activating myosin. Regulates lipid synthesis by phosphorylating and inactivating lipid metabolic enzymes such as ACACA, ACACB, GYS1, HMGCR and LIPE, regulates fatty acid and cholesterol synthesis by phosphorylating acetyl-CoA carboxylase (ACACA and ACACB) and hormone-sensitive lipase (LIPE) enzymes, respectively. Regulates insulin-signaling and glycolysis by phosphorylating IRS1, PFKFB2 and PFKFB3. AMPK stimulates glucose uptake in muscle by increasing the translocation of the glucose transporter SLC2A4/GLUT4 to the plasma membrane, possibly by mediating phosphorylation of TBC1D4/AS160. Regulates transcription and chromatin structure by phosphorylating transcription regulators involved in energy metabolism such as CRTC2/TORC2, FOXO3, histone H2B, HDAC5, MEF2C, MLXIPL/ChREBP, EP300, HNF4A, p53/TP53, SREBF1, SREBF2 and PPARGC1A. Acts as a key regulator of glucose homeostasis in liver by phosphorylating CRTC2/TORC2, leading to CRTC2/TORC2 sequestration in the cytoplasm. In response to stress, phosphorylates 'Ser-36' of histone H2B (H2BS36ph), leading to promote transcription. Acts as a key regulator of cell growth and proliferation by phosphorylating TSC2, RPTOR and ATG1/ULK1: in response to nutrient limitation, negatively regulates the mTORC1 complex by phosphorylating RPTOR component of the mTORC1 complex and by phosphorylating and activating TSC2.</p>
Gene ID:	5562
UniProt:	Q13131
Pathways:	AMPK Signaling , Carbohydrate Homeostasis , Regulation of Carbohydrate Metabolic Process , Warburg Effect

Application Details

Application Notes:	WB 1:300-5000
	ELISA 1:500-1000

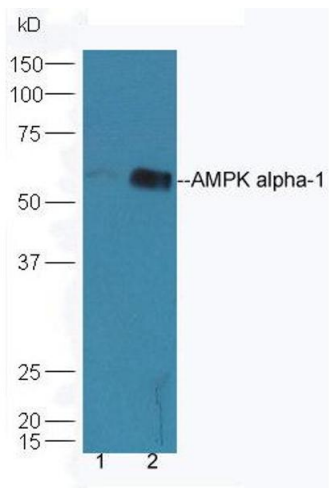
Application Details

	FCM 1:20-100
	IHC-P 1:200-400
Restrictions:	For Research Use only

Handling

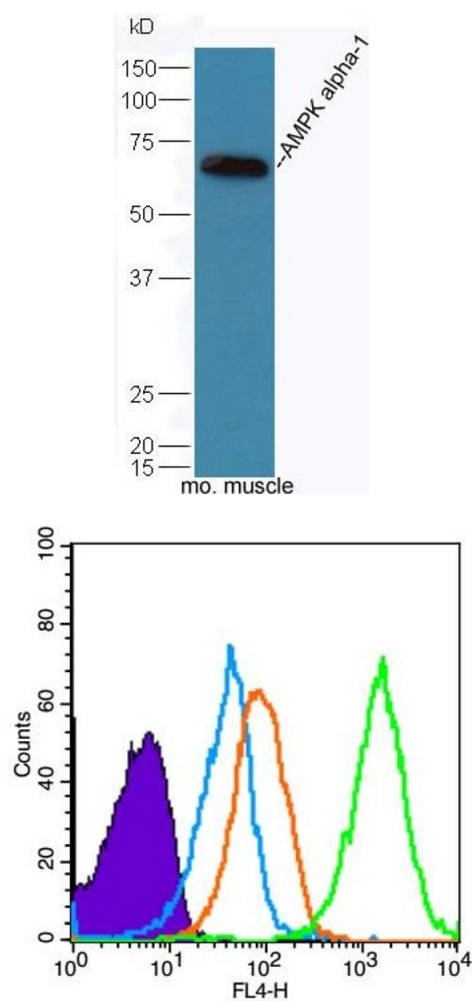
Format:	Liquid
Concentration:	1 µg/µL
Buffer:	0.01M TBS(pH 7.4) with 1 % BSA, 0.02 % Proclin300 and 50 % Glycerol.
Preservative:	ProClin
Precaution of Use:	This product contains ProClin: a POISONOUS AND HAZARDOUS SUBSTANCE, which should be handled by trained staff only.
Storage:	4 °C,-20 °C
Storage Comment:	Shipped at 4°C. Store at -20°C for one year. Avoid repeated freeze/thaw cycles.
Expiry Date:	12 months

Images



Western Blotting

Image 1. Lane 1: HepG2 lysates Lane 2: K562 lysates probed with Rabbit Anti-AMPK alpha-1 Polyclonal Antibody, Unconjugated (ABIN2170161) at 1:300 overnight at 4 °C. Followed by conjugation to secondary antibody at 1:5000 for 90 min at 37 °C.



Western Blotting

Image 2. Mouse muscle lysates probed with Rabbit Anti-AMPK alpha-1 Polyclonal Antibody, Unconjugated (ABIN2170161) at 1:300 overnight at 4 °C. Followed by conjugation to secondary antibody at 1:5000 for 90 min at 37 °C.

Image 3. Mouse spleen cells probed with AMPK alpha-1 Polyclonal Antibody, unconjugated at 1:100 dilution for 30 minutes compared to control cells (blue) and isotype control (orange)

Please check the [product details page](#) for more images. Overall 5 images are available for ABIN2170161.