

PRKAA2 recombinant antibody

Phospho-PRKAA2 (Thr172) Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA235606	Rabbit	Human	Immunofluorescence, Western Blot, ELISA

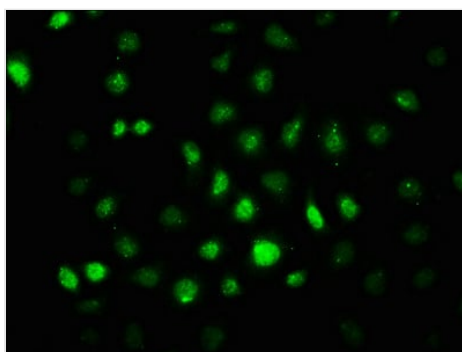
PRODUCT SYNONYMS

PRKAA2; Monoclonal Recombinant Antibody; Phospho-PRKAA2 (Thr172) Antibody; 5'-AMP-activated protein kinase catalytic subunit alpha-2; Acetyl-CoA carboxylase kinase; AMPK; AMPK2; PRKAA2 recombinant antibody

PRODUCT SPECIFICATIONS

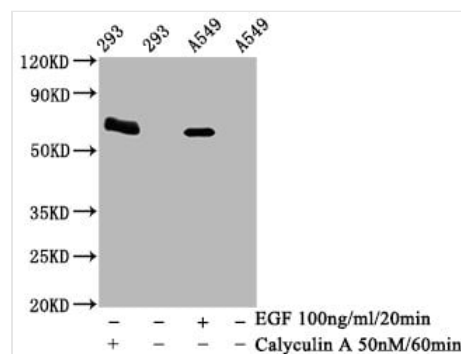
Host	Rabbit
Reactivity	Human
Clonality	Monoclonal
Isotype	IgG
Purity/Purification	Affinity-Chromatography
Form/Format	Liquid; In phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Sequence Length	552
Applicable Applications for PRKAA2 recombinant antibody	IF (Immunofluorescence), WB (Western Blot), ELISA
Immunogen Species	Human
Immunogen	A synthesized peptide derived from human Phospho-PRKAA2 (Thr172)
Conjugate	Non-Conjugated
Preparation and Storage	Upon receipt, store at -20 degree C or -80 degree C. Avoid repeated freeze.

IMAGES



IF (Immunofluorescence)

Immunofluorescence staining of A549 cells with CSB-RA007795A724pHU at 1:100, counter-stained with DAPI. The cells were fixed in 4% formaldehyde, permeabilized using 0.2% Triton X-100 and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4 degree C. The secondary antibody was Alexa Fluor 488-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L).



WB (Western Blot)

Western Blot Positive WB detected in 293 whole cell lysate, A549 whole cell lysate (treated with Calyculin A or EGF). All lanes? Phospho-PRKAA2 antibody at 1.95ug/ml. Secondary Goat polyclonal to rabbit IgG at 1/50000 dilution. Predicted band size: 62 KDa. Observed band size: 62 KDa.

ADDITIONAL INFORMATION

Related Product Information for PRKAA2 recombinant antibody	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. Involved in insulin receptor/INSR internalization (PubMed:25687571). 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. In response to nutrient limitation, promotes autophagy by phosphorylating and activating ATG1/ULK1. AMPK also acts as a regulator of circadian rhythm by mediating phosphorylation of CRY1, leading to destabilize it. May regulate the Wnt signaling pathway by phosphorylating CTNNB1, leading to stabilize it. Also phosphorylates CFTR, EEF2K, KLC1, NOS3 and SLC12A1. Plays an important role in the differential regulation of pro-autophagy (composed of PIK3C3, BECN1, PIK3R4 and UVRAG or ATG14) and non-autophagy (composed of PIK3C3, BECN1 and PIK3R4) complexes, in response to glucose starvation. Can inhibit the non-autophagy complex by phosphorylating PIK3C3 and can activate the pro-autophagy complex by phosphorylating BECN1 (By similarity).
Product Categories/Family for PRKAA2 recombinant antibody	Recombinant Antibody; Signal Transduction

NCBI AND UNIPROT INFORMATION

NCBI GI #	46877068
NCBI GeneID	5563
NCBI Accession #	NP_006243.2
NCBI GenBank Nucleotide #	NM_006252.4
UniProt Accession #	P54646; Q9H1E8; Q9UD43
Molecular Weight	62,320 Da
NCBI Official Full Name	5'-AMP-activated protein kinase catalytic subunit alpha-2
NCBI Official Synonym Full Names	protein kinase AMP-activated catalytic subunit alpha 2
NCBI Official Symbol	PRKAA2
NCBI Official Synonym Symbols	AMPK; AMPK2; PRKAA; AMPKa2
NCBI Protein Information	5'-AMP-activated protein kinase catalytic subunit alpha-2
UniProt Protein Name	5'-AMP-activated protein kinase catalytic subunit alpha-2
UniProt Gene Name	PRKAA2
UniProt Synonym Gene Names	AMPK; AMPK2; AMPK subunit alpha-2; ACACA kinase; HMGCR kinase

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

