Datasheet for ABIN7146598

anti-PRKACA antibody (Catalytic Subunit alpha)

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Overview

Quantity:	100 µL
Target:	PRKACA
Binding Specificity:	AA 233-351, Catalytic Subunit alpha
Reactivity:	Human
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This PRKACA antibody is un-conjugated
Application:	Western Blotting (WB), ELISA, Immunohistochemistry (IHC)

Product Details

Immunogen:	Recombinant Human cAMP-dependent protein kinase catalytic subunit alpha protein (233-351AA)
Isotype:	IgG
Cross-Reactivity:	Human
Purification:	>95%, Protein G purified

Target Details

Target:	PRKACA
Alternative Name:	PRKACA (PRKACA Products)
Background:	Background: Phosphorylates a large number of substrates in the cytoplasm and the nucleus.

Regulates the abundance of compartmentalized pools of its regulatory subunits through phosphorylation of PJA2 which binds and ubiquitinates these subunits, leading to their subsequent proteolysis. Phosphorylates CDC25B, ABL1, NFKB1, CLDN3, PSMC5/RPT6, PJA2, RYR2, RORA and VASP. RORA is activated by phosphorylation. Required for glucose-mediated adipogenic differentiation increase and osteogenic differentiation inhibition from osteoblasts. Involved in the regulation of platelets in response to thrombin and collagen, maintains circulating platelets in a resting state by phosphorylating proteins in numerous platelet inhibitory pathways when in complex with NF-kappa-B (NFKB1 and NFKB2) and I-kappa-B-alpha (NFKBIA), but thrombin and collagen disrupt these complexes and free active PRKACA stimulates platelets and leads to platelet aggregation by phosphorylating VASP. Prevents the antiproliferative and anti-invasive effects of alpha-difluoromethylornithine in breast cancer cells when activated. RYR2 channel activity is potentiated by phosphorylation in presence of luminal Ca(2+), leading to reduced amplitude and increased frequency of store overload-induced Ca(2+) release (SOICR) characterized by an increased rate of Ca(2+) release and propagation velocity of spontaneous Ca(2+) waves, despite reduced wave amplitude and resting cytosolic Ca(2+). PSMC5/RPT6 activation by phosphorylation stimulates proteasome. Negatively regulates tight junctions (TJs) in ovarian cancer cells via CLDN3 phosphorylation. NFKB1 phosphorylation promotes NF-kappa-B p50-p50 DNA binding. Involved in embryonic development by down-regulating the Hedgehog (Hh) signaling pathway that determines embryo pattern formation and morphogenesis. Prevents meiosis resumption in prophase-arrested oocytes via CDC25B inactivation by phosphorylation. May also regulate rapid eye movement (REM) sleep in the pedunculopontine tegmental (PPT). Phosphorylates APOBEC3G and AICDA. Isoform 2 phosphorylates and activates ABL1 in sperm flagellum to promote spermatozoa capacitation. Phosphorylates HSF1, this phosphorylation promotes HSF1 nuclear localization and transcriptional activity upon heat shock (PubMed:21085490).
Aliases: cAMP dependent protein kinase alpha catalytic subunit antibody, cAMP dependent protein kinase beta catalytic subunit antibody, cAMP dependent protein kinase catalytic beta subunit isoform 4ab antibody, cAMP dependent protein kinase catalytic subunit alpha antibody, cAMP dependent protein kinase catalytic subunit alpha, isoform 1 antibody, cAMP dependent protein kinase catalytic subunit beta antibody, cAMP-dependent protein kinase catalytic subunit alpha antibody, KAPCA_HUMAN antibody, PKA C alpha antibody, PKA C beta antibody, PKA C-alpha antibody, PKACA antibody, PKACB antibody, PPNAD4 antibody, PRKACA antibody, PRKACAA antibody, PRKACB antibody, Protein kinase A catalytic subunit alpha antibody, Protein kinase A catalytic subunit antibody, Protein kinase A catalytic subunit beta antibody, Protein kinase, cAMP dependent, catalytic, alpha antibody, Protein kinase, cAMP dependent, catalytic, beta antibody

Target Details

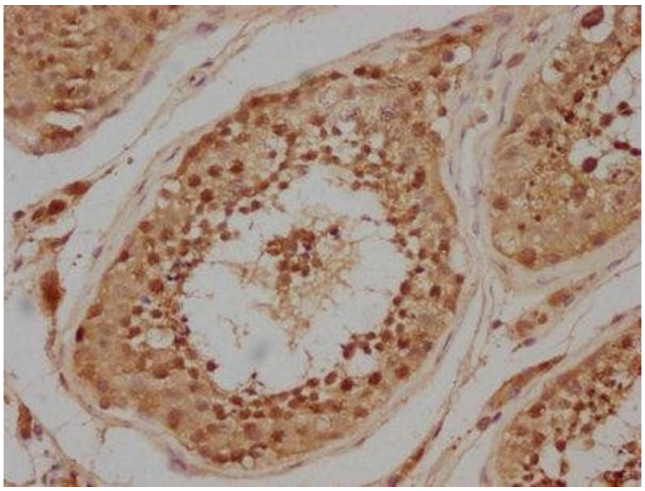
UniProt:	P17612
Pathways:	NF-kappaB Signaling, Hedgehog Signaling, EGFR Signaling Pathway, Neurotrophin Signaling Pathway, Thyroid Hormone Synthesis, Carbohydrate Homeostasis, Myometrial Relaxation and Contraction, M Phase, G-protein mediated Events, Signaling Events mediated by VEGFR1 and VEGFR2, Interaction of EGFR with phospholipase C-gamma, Thromboxane A2 Receptor Signaling, VEGFR1 Specific Signals, Lipid Metabolism, SARS-CoV-2 Protein Interactome, The Global Phosphorylation Landscape of SARS-CoV-2 Infection

Application Details

Application Notes:	Recommended dilution: WB:1:1000-1:5000, IHC:1:200-1:500,
Restrictions:	For Research Use only

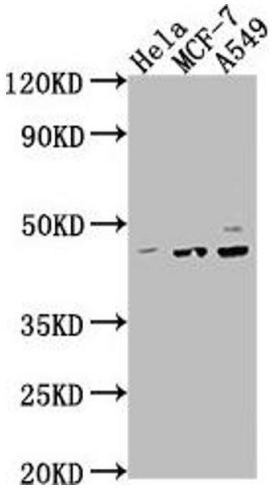
Handling

Format:	Liquid
Buffer:	Preservative: 0.03 % Proclin 300 Constituents: 50 % Glycerol, 0.01M PBS, pH 7.4
Preservative:	ProClin
Precaution of Use:	This product contains ProClin: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	-20 °C,-80 °C
Storage Comment:	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.



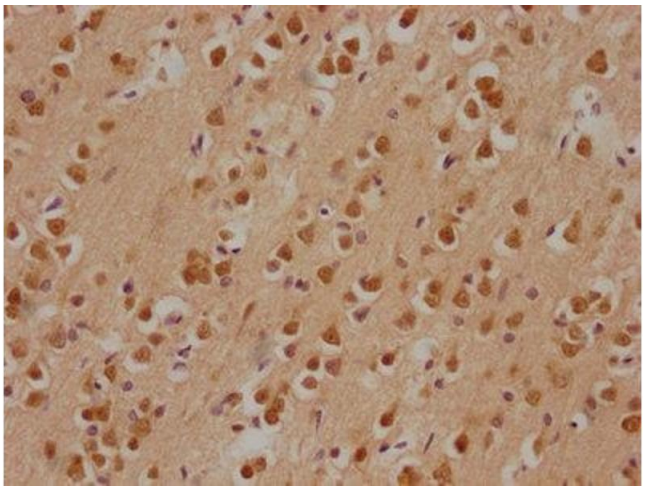
Immunohistochemistry

Image 1. IHC image of ABIN7146598 diluted at 1:200 and staining in paraffin-embedded human testis tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10 % normal goat serum 30 min at RT. Then primary antibody (1 % BSA) was incubated at 4 °C overnight. The primary is detected by a biotinylated secondary antibody and visualized using an HRP conjugated SP system.



Western Blotting

Image 2. Western Blot Positive WB detected in: Hela whole cell lysate, MCF-7 whole cell lysate, A549 whole cell lysate All lanes: PRKACA antibody at 1:2000 Secondary Goat polyclonal to rabbit IgG at 1/50000 dilution Predicted band size: 41, 40 kDa Observed band size: 41 kDa



Immunohistochemistry

Image 3. IHC image of ABIN7146598 diluted at 1:200 and staining in paraffin-embedded human brain tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10 % normal goat serum 30 min at RT. Then primary antibody (1 % BSA) was incubated at 4 °C overnight. The primary is detected by a biotinylated secondary antibody and visualized using an HRP conjugated SP system.