Recombinant Human PRKACA Protein (G2-F351), Tag Free

Cat. No. PRKACA-0816H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human GG-PKACα(G2-F351 end) Protein was expressed in Insect cell.
Species	Human
Source	Insect Cells
ProteinLength	G2-F351
Description	Phosphorylates a large number of substrates in the cytoplasm and the nucleus. Phosphorylates CDC25B, ABL1, NFKB1, CLDN3, PSMC5/RPT6, PJA2, RYR2, RORA, SOX9 and VASP. 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. RORA is activated by phosphorylation. Required for glucose-mediated adipogenic differentiation increase and osteogenic differentiation inhibition from osteoblasts. Involved in chondrogenesis by mediating phosphorylation of SOX9. 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

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	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. Phosphorylates HSF1; this phosphorylation promotes HSF1 nuclear localization and transcriptional activity upon heat shock.
Form	Liquid
Endotoxin	< 0.01 EU per μg of the protein
Purity	90%
Stability	Samples are stable for up to twelve months from date of receipt at -20 to -80 centigrade.
Storage	Store it under sterile conditions at -20 to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Storage Buffer	Supplied as sterile 50 mM Tris-HCl (pH7.5), 200 mM NaCl, 20% glycerol
Shipping	It is shipped out with blue ice.

GENE INFORMATION

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Gene Name	PRKACA protein kinase, cAMP-dependent, catalytic, alpha [Homo sapiens (human)]
Official Symbol	PRKACA
Synonyms	PRKACA; protein kinase, cAMP-dependent, catalytic, alpha; cAMP-dependent protein kinase catalytic subunit alpha; PKACa; PKA C-alpha; protein kinase A catalytic subunit; cAMP-dependent protein kinase catalytic subunit alpha, isoform 1; PKACA; MGC48865; MGC102831;
Gene ID	5566
mRNA Refseq	NM_002730
Protein Refseq	NP_002721
MIM	601639
UniProt ID	P17612

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