PKACα Protein, Human (Sf9, GST)

Cat. No.:	HY-P701753
Synonyms:	PRKACA; cAMP-dependent protein kinase catalytic subunit alpha; PKA C-alpha
Species:	Human
Source:	Sf9 insect cells
Accession:	P17612 (G2-F351)
Gene ID:	5566
Molecular Weight:	

PROPERTIES

Appearance	Solution.
Formulation	Supplied as a 0.22 μm filtered solution of 50 mM Tris-HCl, pH7.5, 200 mM NaCl, 20% glycerol.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	Please use rapid thawing with running water to thaw the protein.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background	PKACα, a protein kinase, plays a pivotal role in cellular regulation by phosphorylating a myriad of substrates in both the cytoplasm and the nucleus. Its extensive substrate repertoire includes CDC25B, ABL1, NFKB1, CLDN3, PSMC5/RPT6, PJA2, RYR2, RORA, SOX9, and VASP, among others. Through the phosphorylation of specific substrates, PKACα influences diverse cellular processes such as cell cycle progression, platelet regulation, adipogenic and osteogenic differentiation, chondrogenesis, and tight junction dynamics. Notably, PKACα negatively regulates mTORC1 by phosphorylating RPTOR, acting as a key modulator in the intricate signaling network. Additionally, PKACα exerts regulatory effects on embryonic development, Hedgehog signaling, meiosis resumption, and even REM sleep, showcasing its multifaceted roles in cellular physiology and homeostasis.

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