

PRKD1 Protein, Human (Sf9, His, GST)

Cat. No.:	HY-P702086
Synonyms:	PRKD1; Serine/threonine-protein kinase D1; Protein kinase C mu type; Protein kinase D; nPKC-D1; nPKC-mu
Species:	Human
Source:	Sf9 insect cells
Accession:	Q15139 (S2-L912)
Gene ID:	5587
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.
Reconstitution	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	<p>PRKD1, a serine/threonine-protein kinase, orchestrates a myriad of cellular functions by converting transient diacylglycerol (DAG) signals into sustained physiological effects downstream of PKC. Involved in diverse pathways, PRKD1 regulates MAPK8/JNK1 and Ras signaling, maintains Golgi membrane integrity, promotes cell survival through NF-kappa-B activation, influences cell migration, mediates cell differentiation by facilitating HDAC7 nuclear export, regulates cell proliferation via MAPK1/3 (ERK1/2) signaling, and plays roles in cardiac hypertrophy, VEGFA-induced angiogenesis, genotoxic-induced apoptosis, and flagellin-stimulated inflammatory responses. Notably, PRKD1 phosphorylates the epidermal growth factor receptor (EGFR), suppressing EGF-induced MAPK8/JNK1 activation and subsequent JUN phosphorylation. It also phosphorylates RIN1, affecting its binding to 14-3-3 proteins and modulating competition with RAF1 for binding to GTP-bound Ras proteins. Furthermore, PRKD1 participates in Golgi membrane trafficking, impacting protein transport along the secretory pathway and orchestrating vesicle fission in the trans-Golgi network (TGN). The kinase's multifaceted involvement extends to angiogenesis, osteoblast differentiation, and cardiac hypertrophy, demonstrating its critical regulatory roles in various cellular processes.</p>
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Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA