

PKCE Protein, Human (His)

Cat. No.:	HY-P71208
Synonyms:	Protein Kinase C Epsilon Type; nPKC-Epsilon; PRKCE; PKCE
Species:	Human
Source:	E. coli
Accession:	Q02156 (Q580-P737)
Gene ID:	5581
Molecular Weight:	Approximately 20.0 kDa

PROPERTIES

AA Sequence	<p> Q E L E Y G P S V D W W A L G V L M Y E M M A G Q P P F E A D N E D D L F E S I L H D D V L Y P V W L S K E A V S I L K A F M T K N P H K R L G C V A S Q N G E D A I K Q H P F F K E I D W V L L E Q K K I K P P F K P R I K T K R D V N N F D Q D F T R E E P V L T L V D E A I V K Q I N Q E E F K G F S Y F G E D L M P </p>
Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Solution.
Formulation	Supplied as a 0.2 µm filtered solution of 20 mM PB, 150 mM NaCl, 1 mM DTT, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	N/A
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>PKCE, a calcium-independent, phospholipid- and diacylglycerol (DAG)-dependent serine/threonine-protein kinase, plays pivotal roles in regulating diverse cellular processes associated with cytoskeletal proteins, including cell adhesion, motility, migration, and cell cycle control. In cardiac fibroblasts, PKCE mediates angiotensin-2-induced integrin beta-1 (ITGB1) activation, facilitating cell adhesion to the extracellular matrix. It phosphorylates MARCKS, leading to PTK2/FAK activation and subsequent cardiomyocyte spreading. In mesenchymal cells, PKCE governs the directional transport of ITGB1 by phosphorylating vimentin (VIM). In epithelial cells, it associates with and phosphorylates keratin-8 (KRT8), influencing desmoplakin targeting at desmosomes and regulating cell-cell contact. Additionally, PKCE phosphorylates IQGAP1,</p>
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promoting epithelial cell detachment prior to migration. In various contexts, such as HGF-induced cell migration, wound healing, and cytokinesis, PKCE demonstrates its versatility in coordinating complex cellular events. It also plays crucial roles in cardiac myocytes, nerve growth factor (NGF)-induced neurite outgrowth, and immune responses. Notably, PKCE influences prostate cancer cell invasion through phosphorylation of STAT3 and participates in the LPS-induced immune response via TICAM2/TRAM activation. In differentiating erythroid progenitors, PKCE is regulated by EPO, providing protection against TNFSF10/TRAIL-mediated apoptosis. Additionally, PKCE is implicated in insulin-induced phosphorylation and activation of AKT1, as well as the modulation of AKT pathway activation in cumulus cells through NLRP5/MATER phosphorylation.

Caution: Product has not been fully validated for medical applications. For research use only.

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