

PKC nu Protein, Human, Recombinant (GST)

General Information

Synonyms:	PRKCN;nPKC-NU;PKC-NU;PKD3;EPK2;protein kinase D3
Protein Construction:	A DNA sequence encoding the full length of human PRKD3 (NP_005804.1) (Met 1-Pro 890) was expressed with the GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	O94806-1
Molecular Weight:	126.7 kDa (predicted); 126.7 kDa (reducing conditions)

QC Testing

Biological Activity:	Kinase activity untested
Purity:	> 85 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ μ g of the protein as determined by the LAL method.
Formulation:	Supplied as sterile 20 mM Tris, 500 mM NaCl, 10 mM Reduced Glutathione, pH 7.4.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store the product under sterile conditions at -20°C to -80°C. Samples are stable for up to 12 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

Proteins are shipped with blue ice.

Protein Background

Serine/threonine-protein kinase D3, also known as Protein kinase C nu type, Protein kinase EPK2, PRKD3, EPK2 and PRKCN, is a cytoplasm and membrane protein that belongs to the protein kinase superfamily, CAMK Ser/Thr protein kinase family and PKD subfamily. PRKD3 / PRKCN contains one PH domain, two phorbol-ester/DAG-type zinc fingers and one protein kinase domain. Protein kinase C (PKC) is a family of serine- and threonine-specific protein kinases that can be activated by calcium and the second messenger diacylglycerol. PKC family members phosphorylate a wide variety of protein targets and are known to be involved in diverse cellular signaling pathways. They also serve as major receptors for phorbol esters, a class of tumor promoters. Each member of the PKC family has a specific expression profile and is believed to play a distinct role. PRKD3 / PRKCN converts transient diacylglycerol (DAG) signals into prolonged physiological effects, downstream of PKC. It is involved in

resistance to oxidative stress. PRKD3 / PRKCN is activated by DAG and phorbol esters. Phorbol-ester/DAG-type domains 1 and 2 bind both DAG and phorbol ester with high affinity and mediate translocation to the cell membrane. Autophosphorylation of Ser-735 and phosphorylation of Ser-731 by PKC relieves auto-inhibition by the PH domain. PRKD3 / PRKCN can be activated rapidly by the agonists of G protein-coupled receptors. It resides in both cytoplasm and nucleus, and its nuclear accumulation is found to be dramatically enhanced in response to its activation. PRKD3 / PRKCN can also be activated after B-cell antigen receptor (BCR) engagement, which requires intact phospholipase C gamma and the involvement of other PKC family members.

Reference

Schultz SJ, et al., 1994, Cell Growth Differ. 4 (10): 821-30.

HAYashi A, et al., 1999, Biochim Biophys Acta 1450 (1): 99-106.

Mayne M, et al., 2000, J. Immunol. 164 (12): 6538-42. Ali A, et al., 2002, Chem. Rev. 101 (8): 2527-40.

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