



Recombinant Protein Technical Manual  
Recombinant Human PKC nu/PRKD3 Protein (GST  
Tag)  
RPES1792

Product Data:

**Product SKU:** RPES1792

**Size:** 20µg

**Species:** Human

**Expression host:** Baculovirus-Insect Cells

**Uniprot:** NP\_005804.1

Protein Information:

**Molecular Mass:** 126.7 kDa

**AP Molecular Mass:** 126.7 kDa

**Tag:** N-GST

**Bio-activity:**

**Purity:** > 85 % as determined by reducing SDS-PAGE.

**Endotoxin:** < 1.0 EU per µg as determined by the LAL method.

**Storage:** Store at < -20°C, stable for 6 months. Please minimize freeze-thaw cycles.

**Shipping:** This product is provided as liquid. It is shipped at frozen temperature with blue ice/gel packs. Upon receipt, store it immediately at < -20°C.

**Formulation:** Supplied as sterile 20mM Tris, 500mM NaCl, 10mM Reduced Glutathione, pH 7.4

**Reconstitution:** Please refer to the printed manual for detailed information.

**Application:**

**Synonyms:** EPK2;nPKC-NU;PKC-NU;PKD3;PRKCN

## Immunogen Information:

**Sequence:** Met 1-Pro 890

## 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 which 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.