

Recombinant Human PRKG1

Cat. No. PRKG1-26452TH **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant full length Human cGKI with N-terminal proprietary tag; MWt 100kDa.
Species	Human
Source	Insect Cells
ProteinLength	685 amino acids
Description	Mammals have three different isoforms of cyclic GMP-dependent protein kinase (Ialpha, Ibeta, and II). These PRKG isoforms act as key mediators of the nitric oxide/cGMP signaling pathway and are important components of many signal transduction processes in diverse cell types. This PRKG1 gene on human chromosome 10 encodes the soluble Ialpha and Ibeta isoforms of PRKG by alternative transcript splicing. A separate gene on human chromosome 4, PRKG2, encodes the membrane-bound PRKG isoform II. The PRKG1 proteins play a central role in regulating cardiovascular and neuronal functions in addition to relaxing smooth muscle tone, preventing platelet aggregation, and modulating cell growth. This gene is most strongly expressed in all types of smooth muscle, platelets, cerebellar Purkinje cells, hippocampal neurons, and the lateral amygdala. Isoforms Ialpha and Ibeta have identical cGMP-binding and catalytic domains but differ in their leucine/isoleucine zipper and autoinhibitory sequences and therefore differ in their dimerization substrates and kinase enzyme activity.
Molecular Weight	100.000kDa inclusive of tags

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Biological activity	The specific activity was determined to be 780 nmol/min/mg.
Form	Liquid
Storage buffer	Preservative: None Constituents: 25% Glycerol, 50mM Tris HCl, 150mM Sodium chloride, 10mM Glutathione, 0.25mM DTT, 0.1mM EDTA, 0.1mM PMSF, pH 7.5
Storage	Shipped on dry ice. Upon delivery aliquot and store at -80oC. Avoid freeze / thaw cycles.

GENE INFORMATION

Gene Name	PRKG1 protein kinase, cGMP-dependent, type I [Homo sapiens]
Official Symbol	PRKG1
Synonyms	PRKG1; protein kinase, cGMP-dependent, type I; PRKG1B, PRKGR1B; cGMP-dependent protein kinase 1; PGK; PKG;
Gene ID	5592
mRNA Refseq	NM_001098512
Protein Refseq	NP_001091982
MIM	176894
Uniprot ID	Q13976
Chromosome Location	10q11.2

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Pathway

Adaptive Immune System, organism-specific biosystem; Gap junction, organism-specific biosystem; Gap junction, conserved biosystem; Hemostasis, organism-specific biosystem; Immune System, organism-specific biosystem;

Function

ATP binding; cGMP binding; cGMP-dependent protein kinase activity; nucleotide binding; protein serine/threonine kinase activity;

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