

# 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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<b>Biological activity</b>	The specific activity was determined to be 780 nmol/min/mg.
<b>Form</b>	Liquid
<b>Storage buffer</b>	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
<b>Storage</b>	Shipped on dry ice. Upon delivery aliquot and store at -80oC. Avoid freeze / thaw cycles.

## GENE INFORMATION

<b>Gene Name</b>	<a href="#">PRKG1 protein kinase, cGMP-dependent, type I [ Homo sapiens ]</a>
<b>Official Symbol</b>	<a href="#">PRKG1</a>
<b>Synonyms</b>	PRKG1; protein kinase, cGMP-dependent, type I; PRKG1B, PRKGR1B; cGMP-dependent protein kinase 1; PGK; PKG;
<b>Gene ID</b>	<a href="#">5592</a>
<b>mRNA Refseq</b>	<a href="#">NM_001098512</a>
<b>Protein Refseq</b>	<a href="#">NP_001091982</a>
<b>MIM</b>	<a href="#">176894</a>
<b>Uniprot ID</b>	<a href="#">Q13976</a>
<b>Chromosome Location</b>	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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