

Recombinant Human PRKG1 Protein, Myc/DDK-tagged, C13 and N15-labeled

Cat. No. PRKG1-2380H **Lot. No.** (See product label)

SPECIFICATION

Product Overview

PRKG1 MS Standard C13 and N15-labeled recombinant protein (NP_006249) with a C-terminal MYC/DDK tag, was expressed in HEK293 cells.

Species

Human

Source

HEK293

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 Mass

77.6 kDa

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AA Sequence

MGTLRDLQYALQEKIEELRQRDALIDELELELDQKDELIQKLQNELDKYRSVIRPATQ
 QAQKQSASTLQGEPRTRKQAI SA EPTAFDIQDL SHVTLPFY PKSPQSKDLIKEAILDN
 DFMKNLELSQIQEIVDCMYPVEY GKDSCIIKEGDV GSLVYAMEDGKVEVTKEGVKLC
 TMGPGKVFGE LAILYNCTRTATVKTLVNVK LWAIDRQCFQTIMMRTGLIKHTEYMEFL
 KSVPTFQSLPEEILSKLADVLEETHYENGEYIIRQGARGDTFFIISKGTVNVTREDS
 PSEDVFLRTL GKGDWFG EKALQGEDVRTANVIAAEAVTCLVIDRDSFKHLIGGLDDVS
 NKAYEDAEAKAKYEAEAAFFANLKLSDFNII DTLGVGGFGRVELVQLKSEESKTFAM
 KILKKRHIVDTRQQEHIRSEKQIMQGAHSDFIVRLYRTFKDSKYLYMLMEACLGGEL
 WTILRDRGSFEDSTTRFYTACVVEAFAYLHSGI IYRDLKPENLILDHRGYAKLVDFG
 FAKKIGFGKKTWTF CGTPEYVAPEIILNKGHDISADYWSLGILMYELLTGSPPFSGPD
 PMKTYNIILRGIDMIEFPK KIAKNAANLIKKLCRDNPSERLGNLKNV KDIQKHKWFEG
 FNWEGLRKGTLPPIIPSVASPTDTSNFDSFPEDNDEPPDDNSGWDIDFTRTRPLE
 QKLISEEDLAANDILDYKDDDDKV

Purity

> 80% as determined by SDS-PAGE and Coomassie blue staining

Stability

Stable for 3 months from receipt of products under proper storage and handling conditions.

Storage

Store at -80 centigrade. Avoid repeated freeze-thaw cycles.

Concentration

50 µg/mL as determined by BCA

Storage Buffer

100 mM glycine, 25 mM Tris-HCl, pH 7.3.

GENE INFORMATION

Gene Name

PRKG1 protein kinase cGMP-dependent 1 [Homo sapiens (human)]

Official Symbol

PRKG1

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Synonyms PRKG1; protein kinase, cGMP-dependent, type I; PRKG1B, PRKGR1B; cGMP-dependent protein kinase 1; PGK; PKG; protein kinase, cGMP-dependent, regulatory, type I, beta; 1; cGK; cGK1; cGKI; cGK 1; PRKG1B; PRKGR1B; cGKI-BETA; cGKI-alpha; FLJ36117; MGC71944; DKFZp686K042;

Gene ID [5592](#)

mRNA Refseq [NM_006258](#)

Protein Refseq [NP_006249](#)

MIM [176894](#)

UniProt ID [Q13976](#)

SDS-PAGE



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