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 QAQKQSASTLQGEPRTKRQAISAEPTAFDIQDLSHVTLPFYPKSPQSKDLIKEAILDN DFMKNLELSQIQEIVDCMYPVEYGKDSCIIKEGDVGSLVYAMEDGKVEVTKEGVKLC TMGPGKVFGELAILYNCTRTATVKTLVNVKLWAIDRQCFQTIMMRTGLIKHTEYMEFL KSVPTFQSLPEEILSKLADVLEETHYENGEYIIRQGARGDTFFIISKGTVNVTREDSPS EDPVFLRTLGKGDWFGEKALQGEDVRTANVIAAEAVTCLVIDRDSFKHLIGGLDDVS NKAYEDAEAKAKYEAEAAFFANLKLSDFNIIDTLGVGGFGRVELVQLKSEESKTFAM KILKKRHIVDTRQQEHIRSEKQIMQGAHSDFIVRLYRTFKDSKYLYMLMEACLGGEL WTILRDRGSFEDSTTRFYTACVVEAFAYLHSKGIIYRDLKPENLILDHRGYAKLVDFG FAKKIGFGKKTWTFCGTPEYVAPEIILNKGHDISADYWSLGILMYELLTGSPPFSGPD PMKTYNIILRGIDMIEFPKKIAKNAANLIKKLCRDNPSERLGNLKNGVKDIQKHKWFEG FNWEGLRKGTLTPPIIPSVASPTDTSNFDSFPEDNDEPPPDDNSGWDIDFTRTRPLE 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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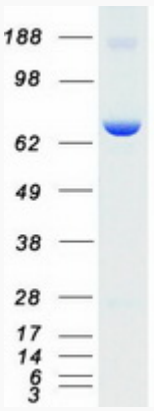
Synonyms	PRKG1; protein kinase, cGMP-dependent, type I; PRKG1B, PRKGR1B; cGMP-dependent protein kinase 1; PGK; PKG; protein kinase, cGMP-dependent, regulatory, type I, beta; 1; cGK; cGK1; cGKI; cGK 1; PRKG1B; PRKGR1B; cGKI-BETA; cGKI-alpha; FLJ36117; MGC71944; DKFZp686K042;
Gene ID	5592
mRNA Refseq	NM_006258
Protein Refseq	NP_006249
MIM	176894
UniProt ID	Q13976
SDS-PAGE	

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