

**Catalog No.: RP03421LQ** **Recombinant**

Species	Gene ID	Swiss Prot
Human	5592	O13976

**Tags**  
N-GST

PRKG1; PRKG1B; PRKGR1A; PRKGR1B;  
cGK 1; cGK1; cGMP-dependent protein  
kinase 1

Source	Purification
Baculovirus-Insect Cells	≥ 90 % as determined by SDS-PAGE; ≥ 90 % as determined by HPLC.

Calculated MW	Observed MW
104.3 kDa	85-100 kDa

< 1 EU/μg of the protein by LAL method.

Supplied as a 0.22 µm filtered solution in 50 mM Tris, 150 mM NaCl, 1 mM DTT and 5% glycerol. (pH 7.5). Contact us for customized product form or formulation.

Please use running water to thaw it quickly.

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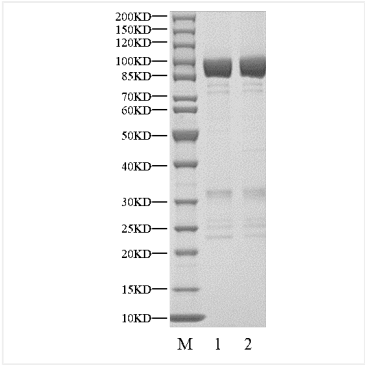
Protein Kinase G1 (PRKG1) is a key enzyme in the family of cGMP-dependent protein kinases. It is critical for mediating cellular responses to the second messenger cGMP, which is a key signaling molecule involved in many physiological processes. Many cellular activities are regulated by the serine/threonine kinase PRKG1, which phosphorylates target proteins in response to intracellular cGMP levels. PRKG1 has a modular structure that consists of several functional domains. The key domains are an N-terminal regulatory domain with two tandem cGMP-binding domains (CNB-A and CNB-B), a hinge region, a catalytic domain that is responsible for kinase activity, and a C-terminal autoinhibitory domain. PRKG1 dysregulation has been linked to a variety of disease states. Variations in PRKG1 activity have been connected to high blood pressure and atherosclerosis, two cardiovascular disorders. Additionally, PRKG1 dysfunction has been linked to neurological disorders such as migraine and neurodegenerative diseases.

Recombinant Human PRKG1 Kinase is produced by Baculovirus-Insect Cells expression system. The target protein is expressed with sequence (Met1-Phe686) of Human PRKG1 (Accession #Q13976) fused with a N-GST tag.

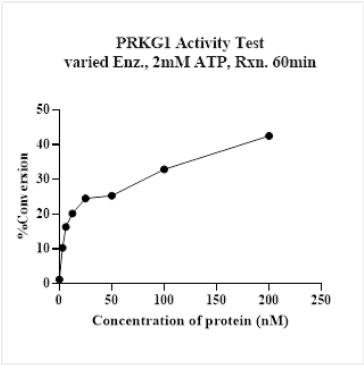
The activity of PRKG1 is based on the MSA technology, and the content and ratio of the substrate and the product are directly separated and detected in real time and dynamically by the different migration rates of the substrate and the product after the enzymatic reaction.

Store at -70°C. This product is stable at  $\leq -70^{\circ}\text{C}$  for up to 1 year from the date of receipt. For optimal storage, aliquot into smaller quantities after centrifugation and store at recommended temperature. Aliquots below 10  $\mu\text{L}$  are not advisable. Product must not be stored in diluted solutions. Avoid repeated freeze-thaw cycles. Avoid repeated freeze/thaw cycles.

Validation Data



Recombinant Human PRKG1 Kinase was resolved with SDS-PAGE under reducing (Lane 1) and non-reducing (Lane 2) conditions.



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