

PHKG1 Protein, Human, Recombinant (GST)

General Information

Synonyms:	phosphorylase kinase, γ 1 (muscle); phosphorylase kinase, gamma 1 (muscle); PHKG
Protein Construction:	A DNA sequence encoding the human PHKG1 (NP_006204.1) (Met 1-Tyr 387) was fused with the GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	Q16816
Molecular Weight:	71.3 kDa (predicted); 65 kDa (reducing conditions)

QC Testing

Biological Activity:	No Kinase Activity
Purity:	> 87 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ μ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μ m filter, containing 50 mM Tris, 100 mM NaCl, 0.5 mM GSH, 0.5 mM PMSF, pH 8.0. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Phosphorylase b kinase gamma catalytic chain, skeletal muscle isoform, also known as Phosphorylase kinase subunit gamma-1 and PHKG1, is a member of the protein kinase superfamily and CAMK Ser/Thr protein kinase family. PHKG1 is the catalytic member of a 16 subunit protein kinase complex that contains equimolar ratios of 4 subunit types. The complex is a crucial glycogenolytic regulatory enzyme. Muscle glycogenosis caused by phosphorylase kinase (Phk) deficiency may lead to exercise intolerance, weakness and musculatur atrophy. The

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gene encoding the muscle isoform of the Phk gamma subunit (gamma M) is one of the candidate genes in which mutations responsible for this condition should be sought. Muscle-specific deficiency of Phk causes glycogen storage disease, clinically manifesting in exercise intolerance with early fatiguability, pain, cramps and occasionally myoglobinuria.

Reference

Wehner, M. et al., 1995, Hum Genet. 96 (5): 616-8.

Burwinkel, B. et al., 2003, Eur J Hum Genet. 11 (7): 516-26.

Winchester, JS. et al., 2007, Mol Genet Metab. 92 (3): 234-42.

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