

Human PDK-1 Protein (His Tag)

Catalog Number: 12312-H07B



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Biological Solution Specialist

General Information

Gene Name Synonym:

B830012B01; D530020C15Rik

Protein Construction:

A DNA sequence encoding the mature form of human PDK1 (NP_002601.1) (Ser 29-Ala 436) was expressed, with a polyhistidine tag at the N-terminus.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 90 % as determined by SDS-PAGE

Bio Activity:

No Kinase Activity

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: His

Molecular Mass:

The recombinant human PDK1 consists of 427 amino acids and has a calculated molecular mass of 48.6 kDa. It migrates as an approximately 45 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 20mM Tris, 500mM NaCl, pH 8.5, 10% glycerol

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

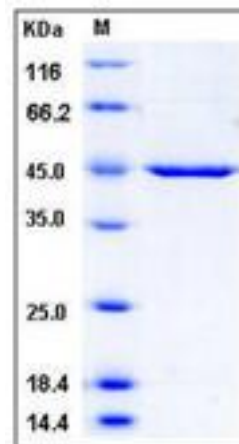
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Pyruvate dehydrogenase kinase, isozyme 1, also known as [Pyruvate dehydrogenase [lipoamide]] kinase isozyme 1, mitochondrial and PDK1, is a member of the PDK / BCKDK protein kinase family. PDK-1 is expressed predominantly in the heart. It contains one histidine kinase domain. Pyruvate dehydrogenase kinase (PDK) isoforms are molecular switches that downregulate the pyruvate dehydrogenase complex (PDC) by reversible phosphorylation in mitochondria. An inhibitory effect of lipoic acid on PDKs would result in less phosphorylation of E1 and hence increased PDC activity. At least two isoenzymic forms of pyruvate dehydrogenase kinase (PDK-1 and PDK-2) may be involved in the regulation of enzymatic activity of mammalian pyruvate dehydrogenase complex by phosphorylation. PDK-3 appears to have the highest specific activity among the three isoenzymes. PDK-1 inhibits the mitochondrial pyruvate dehydrogenase complex by phosphorylation of the E1 alpha subunit, thus contributing to the regulation of glucose metabolism.

References

- 1.Gudi R., et al., 1995, J. Biol. Chem. 270:28989-94.
- 2.Mooney,B.P. et al., 2000, Biochem Biophys Res Commun. 267 (2): 500 - 503.
- 3.Korotchkina,L.G. et al., 2004, Free Radic Res. 38 (10):1083-92.

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