

PDK1 Protein, Human (sf9, His)

Cat. No.:	HY-P73718
Synonyms:	Pyruvate dehydrogenase kinase isoform 1; PDK1; PDHK1
Species:	Human
Source:	Sf9 insect cells
Accession:	Q15118 (S29-A436)
Gene ID:	5163
Molecular Weight:	Approximately 45 kDa

PROPERTIES

Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Solution.
Formulation	Supplied as a 0.2 µm filtered solution of 20 mM Tris, 500 mM NaCl, pH 8.5, 10% glycerol.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background

PDK1, a pivotal kinase, exerts significant control over glucose and fatty acid metabolism by phosphorylating the pyruvate dehydrogenase subunits PDHA1 and PDHA2. This phosphorylation event acts as a molecular switch, inhibiting pyruvate dehydrogenase activity and finely tuning metabolite flux through the tricarboxylic acid cycle. Consequently, PDK1 down-regulates aerobic respiration and impedes the conversion of pyruvate to acetyl-coenzyme A. Beyond its metabolic functions, PDK1 emerges as a critical player in cellular responses to hypoxia, where it plays a key role in promoting cell proliferation under oxygen-deprived conditions. Moreover, PDK1 serves a protective role by shielding cells against apoptosis triggered by hypoxia and oxidative stress, showcasing its multifaceted contributions to cellular homeostasis and stress response pathways.

Caution: Product has not been fully validated for medical applications. For research use only.

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