

Recombinant PDK1 protein

Catalog No: 81090, 81790**Lot No:** 31517001**Expressed In:** Baculovirus**Quantity:** 20, 1000 µg**Concentration:** 0.25 µg/µl**Source:** Human

Buffer Contents: Recombinant PDK1 protein is supplied in 25 mM HEPES-NaOH pH 7.5, 300 mM NaCl, 10% glycerol, 0.04% Triton X-100, and 0.5 mM TCEP.

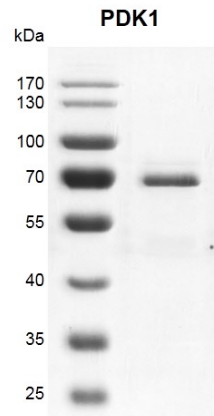
Background: PDK1 (Pyruvate Dehydrogenase Kinase 1), also known as PDHK1, is a serine/threonine kinase. It plays a key role in regulation of glucose and fatty acid metabolism and homeostasis via phosphorylation of the pyruvate dehydrogenase subunits PDHA1 and PDHA2. This inhibits pyruvate dehydrogenase activity, and thereby regulates metabolite flux through the tricarboxylic acid cycle, down-regulates aerobic respiration and inhibits the formation of acetyl-coenzyme A from pyruvate. PDK1 plays an important role in cellular responses to hypoxia and is important for cell proliferation under hypoxia. Protects cells against apoptosis in response to hypoxia and oxidative stress. Its activity can be enhanced by binding to the pyruvate dehydrogenase subunit DLAT, inhibited by AZD7545 (this compound interferes with DLAT binding and thereby inhibits kinase activity). Its activity can also be inhibited by dichloroacetate and radicicol.

Protein Details: Recombinant human PDK1 protein was expressed in a baculovirus expression system as the full length protein (accession number NP_002604.1) with an N-terminal FLAG tag. The molecular weight of the protein is 64.8 kDa.

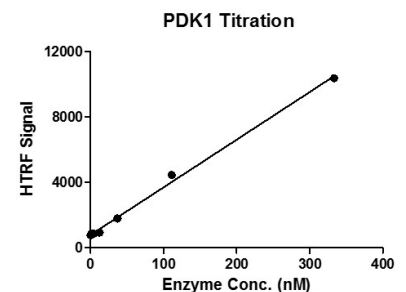
Application Notes: This protein is suitable for use in binding assays, inhibitor screening, and selectivity profiling.

Kinase Activity Assay Conditions: 1 µM STK S3 substrate was incubated with different concentrations of PDK1 protein in a 10 µl reaction system containing 1X Enzymatic Buffer, 2 mM MgCl₂, 1 mM DTT, and 100 µM ATP for 1 hour. All the operations and reactions were performed at room temperature, and HTRF KinASE STK assay was used to detect the enzymatic activity.

Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is for research use only and is not for use in diagnostic procedures. This product is guaranteed for 6 months from date of arrival.



Recombinant PDK1 protein gel
10% SDS-PAGE Coomassie staining
MW: 64.8 kDa
Purity: >90%

**HTRF assay for PDK1 activity**

STK S3 substrated was incubated with varying concentrations of PDK1 protein in a reaction system containing Enzymatic Buffer, MgCl₂, DTT and ATP for 1 hr at RT. HTRF KinASE STK assay was used to detect the enzymatic activity.