[Pyruvate Dehydrogenase [Lipoamide]] Kinase Isozyme 1, Mitochondrial (PDK1) Rat Recombinant Protein

PRODUCT OVERVIEW

Product Name	[Pyruvate dehydrogenase [lipoamide]] kinase isozyme 1, mitochondrial (Pdk1), Recombinant Protein
Full Product Name	Recombinant Rat [Pyruvate dehydrogenase [lipoamide]] kinase isozyme 1, mitochondrial (Pdk1)
Product Gene Name	Pdk1 recombinant protein
Product Synonym Gene Name	Pdk1
Sequence	ASDSASGSGP ASESGVPGQV DFYARFSPSP LSMKQFLDFG SVNACEKTSF MFLRQELPVR LANIMKEISL LPDNLLRTPS VQLVQSWYIQ SLQELLDFKD KSAEDAKTIY EFTDTVIRIR NRHNDVIPTM AQGVTEYKES FGVDPVTSQN VQYFLDRFYM SRISIRMLLN QHSLLFGGKG SPSHRKHIGS INPNCDVVEV IKDGYENARR LCDLYYVNSP ELELEELNAK SPGQPIQVVY VPSHLYHMVF ELFKNAMRAT MEHHADKGVY PPIQVHVTLG EEDLTVKMSD RGGGVPLRKI DRLFNYMYST APRPRVETSR AVPLAGFGYG LPISRLYAQY FQGDLKLYSL EGYGTDAVIY IKALSTESIE RLPVYNKAAW KHYRTNHEAD DWCVPSREPK DMTTFRSS
Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE. (lot specific)
Preparation and Storage	Store at -20 degrees C. For long-term storage, store at -20 degrees C or -80 degrees C. Store working aliquots at 4 degrees C for up to one week. Repeated freezing and thawing is not recommended.
Molecular Weight	49,081 Da
Sequence Positions	27-434, full length protein
Tag Information	This protein contains an N-terminal tag and may also contain a C-terminal tag. Tag types are determined by various factors including tag-protein stability, please inquire for tag information.
Sterility	Sterile filter available upon request.
Endotoxin	Low endotoxin available upon request.
3D Structure	ModBase 3D Structure for Q63065
Species	Rat
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for Pdk1 recombinant protein	Pyruvate dehydrogenase (PDH) is a mitochondrial multienzyme complex that catalyzes the oxidative decarboxylation of pyruvate and is one of the major enzymes responsible for the regulation of homeostasis of carbohydrate fuels in mammals. The enzymatic activity is regulated by a phosphorylation dephosphorylation cycle. Phosphorylation of PDH by a specific pyruvate dehydrogenase kinase (PDK) results in inactivation.
Other Notes	Small volumes of Pdk1 recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for Pdk1 purchase	MBS1434227 is a recombinant protein targeting Pdk1. Also known as Recombinant Rat [Pyruvate dehydrogenase [lipoamide]] kinase isozyme 1, mitochondrial (Pdk1). Host: E Coli or Yeast or Baculovirus or Mammalian Cell.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for Pdk1. It may not necessarily be applicable to this product.

NCBI GI #	3183109
NCBI GeneID	116551
NCBI Accession #	Q63065.1
UniProt Primary Accession #	Q63065
UniProt Related Accession #	Q63065
NCBI Official Full Name	[Pyruvate dehydrogenase (acetyl-transferring)] kinase isozyme 1, mitochondrial
NCBI Official Synonym Full Names	pyruvate dehydrogenase kinase 1
NCBI Official Symbol	Pdk1
UniProt Protein Name	[Pyruvate dehydrogenase (acetyl-transferring)] kinase isozyme 1, mitochondrial
UniProt Synonym Protein Names	PDK p48; Pyruvate dehydrogenase kinase isoform 1; PDH kinase 1
Protein Family	[Pyruvate dehydrogenase
UniProt Gene Name	Pdk1
UniProt Synonym Gene Names	Pdh; PDH kinase 1
NCBI Protein Information	pyruvate dehydrogenase kinase, isozyme 1
NCBI Summary for Pdk1	catalyzes the phosphorylation and inactivation of the pyruvate dehydrogenase complex [RGD, Feb 2006]
UniProt Comments for Pdk1	Kinase that 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. 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.
Research Articles on Pdk1	**1.** The expression of three well-defined downstream targets of hypoxia inducible factor 1 alpha subunit (HIF-1alpha), pyruvate dehydrogenase kinase 1 (PDK1), lactate dehydrogenase A (LDHA) and vascular endothelial growth factor (VEGF), were up-regulated in hippocampus after 28 days of simulated microgravity exposure.
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