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PDK1 Blocking Peptide (Center M289)

Synthetic peptide
Catalog # BP7038c

Specification

PDK1 Blocking Peptide (Center M289) - Product Information

Primary Accession Q15118

PDK1 Blocking Peptide (Center M289) - Additional Information

Gene ID 5163

Other Names
[Pyruvate dehydrogenase (acetyl-transferring)] kinase isozyme 1, mitochondrial, Pyruvate dehydrogenase kinase isoform 1, PDH kinase 1, PDK1, PDHK1

Target/Specificity
The synthetic peptide sequence is selected from aa 289~303 of HUMAN PDK1

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

PDK1 Blocking Peptide (Center M289) - Protein Information

Name PDK1

Synonyms PDHK1

Function
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.

Cellular Location
Mitochondrion matrix

Tissue Location

Expressed predominantly in the heart. Detected at lower levels in liver, skeletal muscle and pancreas

PDK1 Blocking Peptide (Center M289) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

PDK1 Blocking Peptide (Center M289) - Images

PDK1 Blocking Peptide (Center M289) - Background

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.

PDK1 Blocking Peptide (Center M289) - References

Seong,H.A., J. Biol. Chem. 282 (16), 12272-12289 (2007)
Gao,X., J. Biol. Chem. 281 (31), 21670-21681 (2006)
Kim,J.W., Cell Metab. 3 (3), 177-185 (2006)
Seong,H.A., J. Biol. Chem. 280 (52), 42897-42908 (2005)