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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

### 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)

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