

## Anti-BCKDK Rabbit Monoclonal Antibody Catalog # ABO16365

### Specification

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#### Anti-BCKDK Rabbit Monoclonal Antibody - Product Information

Application	WB
Primary Accession	<a href="#">O14874</a>
Host	Rabbit
Isotype	IgG
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Liquid

#### Description

Anti-BCKDK Rabbit Monoclonal Antibody . Tested in WB application. This antibody reacts with Human, Mouse, Rat.

#### Anti-BCKDK Rabbit Monoclonal Antibody - Additional Information

Gene ID 10295

#### Other Names

Branched-chain alpha-ketoacid dehydrogenase kinase, BCKDH kinase, BCKDHKIN, BDK, 2.7.11.1, [3-methyl-2-oxobutanoate dehydrogenase [lipoamide]] kinase, mitochondrial, 2.7.11.4, BCKDK {ECO:0000303|PubMed:29779826, ECO:0000312|HGNC:HGNC:16902}

#### Application Details

WB 1:500-1:2000

#### Contents

Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

#### Immunogen

A synthesized peptide derived from human BCKDK

#### Purification

Affinity-chromatography

#### Storage

Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

#### Anti-BCKDK Rabbit Monoclonal Antibody - Protein Information

**Name** BCKDK {ECO:0000303|PubMed:29779826, ECO:0000312|HGNC:HGNC:16902}

#### Function

Serine/threonine-protein kinase component of macronutrients metabolism. Forms a functional kinase and phosphatase pair with PPM1K, serving as a metabolic regulatory node that coordinates branched-chain amino acids (BCAAs) with glucose and lipid metabolism via two distinct phosphoprotein targets: mitochondrial BCKDHA subunit of the branched-chain alpha-ketoacid dehydrogenase (BCKDH) complex and cytosolic ACLY, a lipogenic enzyme of Krebs cycle (PubMed:<a href="http://www.uniprot.org/citations/24449431" target="\_blank">24449431</a>, PubMed:<a href="http://www.uniprot.org/citations/29779826" target="\_blank">29779826</a>, PubMed:<a href="http://www.uniprot.org/citations/37558654" target="\_blank">37558654</a>). Phosphorylates and inactivates mitochondrial BCKDH complex a multisubunit complex consisting of three multimeric components each involved in different steps of BCAA catabolism: E1 composed of BCKDHA and BCKDHB, E2 core composed of DBT monomers, and E3 composed of DLD monomers. Associates with the E2 component of BCKDH complex and phosphorylates BCKDHA on Ser-337, leading to conformational changes that interrupt substrate channeling between E1 and E2 and inactivates the BCKDH complex (PubMed:<a href="http://www.uniprot.org/citations/29779826" target="\_blank">29779826</a>, PubMed:<a href="http://www.uniprot.org/citations/37558654" target="\_blank">37558654</a>). Phosphorylates ACLY on Ser-455 in response to changes in cellular carbohydrate abundance such as occurs during fasting to feeding metabolic transition. Refeeding stimulates MLXIPL/ChREBP transcription factor, leading to increased BCKDK to PPM1K expression ratio, phosphorylation and activation of ACLY that ultimately results in the generation of malonyl-CoA and oxaloacetate immediate substrates of de novo lipogenesis and gluconeogenesis, respectively (PubMed:<a href="http://www.uniprot.org/citations/29779826" target="\_blank">29779826</a>). Recognizes phosphosites having SxxE/D canonical motif (PubMed:<a href="http://www.uniprot.org/citations/29779826" target="\_blank">29779826</a>).

#### Cellular Location

Mitochondrion matrix {ECO:0000250|UniProtKB:Q00972, ECO:0000305|PubMed:24449431}  
Note=Detected in the cytosolic compartment of liver cells {ECO:0000250|UniProtKB:Q00972}

#### Tissue Location

Ubiquitous.

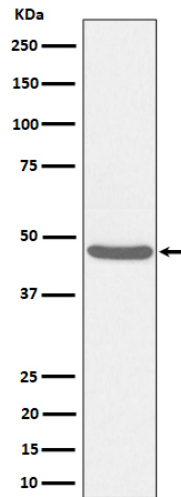
### Anti-BCKDK Rabbit Monoclonal Antibody - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### Anti-BCKDK Rabbit Monoclonal Antibody - Images





Western blot analysis of BCKDK expression in HeLa cell lysate.