

**Bckdk antibody - N-terminal region**  
**Rabbit Polyclonal Antibody**  
**Catalog # AI13374****Specification**

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**Bckdk antibody - N-terminal region - Product Information**

Application	WB
Primary Accession	<a href="#">Q00972</a>
Other Accession	<a href="#">NM_019244</a> , <a href="#">NP_062117</a>
Reactivity	Human, Mouse, Rat, Rabbit, Bovine, Guinea Pig, Dog
Predicted Host	Human, Mouse, Pig, Dog
Clonality	Rabbit
Calculated MW	Polyclonal 45kDa KDa

**Bckdk antibody - N-terminal region - Additional Information****Gene ID** 29603**Other Names**

[3-methyl-2-oxobutanoate dehydrogenase [lipoamide]] kinase, mitochondrial, 2.7.11.4, Branched-chain alpha-ketoacid dehydrogenase kinase, BCKD-kinase, BCKDHKIN, Bckdk

**Format**

Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose.

**Reconstitution & Storage**

Add 50 ul of distilled water. Final anti-Bckdk antibody concentration is 1 mg/ml in PBS buffer with 2% sucrose. For longer periods of storage, store at 20°C. Avoid repeat freeze-thaw cycles.

**Precautions**

Bckdk antibody - N-terminal region is for research use only and not for use in diagnostic or therapeutic procedures.

**Bckdk antibody - N-terminal region - Protein Information****Name** Bckdk**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: [1377677](http://www.uniprot.org/citations/1377677), PubMed: [7649998](http://www.uniprot.org/citations/7649998)) (Probable). 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-333, 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/1377677" target="\_blank">1377677</a>, PubMed:<a href="http://www.uniprot.org/citations/7649998" target="\_blank">7649998</a>) (Probable). PPhosphorylates 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 (Probable). Recognizes phosphosites having SxxE/D canonical motif (By similarity).

#### Cellular Location

Mitochondrion matrix. Mitochondrion. Note=Detected in the cytosolic compartment of liver cells.

#### Tissue Location

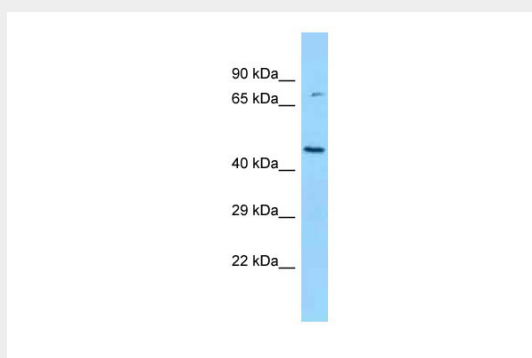
Expressed in heart and liver.

#### Bckdk antibody - N-terminal region - 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](#)

#### Bckdk antibody - N-terminal region - Images



WB Suggested Anti-Bckdk Antibody Titration: 1.0 µg/ml  
Positive Control: Rat Brain

#### Bckdk antibody - N-terminal region - References

Popov K.M.,et al.J. Biol. Chem. 267:13127-13130(1992).  
Harris R.A.,et al.Adv. Enzyme Regul. 32:267-284(1992).  
Davie J.R.,et al.J. Biol. Chem. 270:19861-19867(1995).

