

Mouse Bckdk Antibody (Center)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP13798c

Specification

Mouse Bckdk Antibody (Center) - Product Information

Application	WB,E
Primary Accession	O55028
Other Accession	NP_033869.1
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	46588
Antigen Region	159-188

Mouse Bckdk Antibody (Center) - Additional Information

Gene ID 12041

Other Names

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

Target/Specificity

This Mouse Bckdk antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 159-188 amino acids from the Central region of mouse Bckdk.

Dilution

WB~~1:1000

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

Mouse Bckdk Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Mouse Bckdk Antibody (Center) - 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 (By similarity). 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-334, leading to conformational changes that interrupt substrate channeling between E1 and E2 and inactivates the BCKDH complex (By similarity). 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 glucogenesis, respectively (By similarity). Recognizes phosphosites having SxxE/D canonical motif (By similarity).

Cellular Location

Mitochondrion matrix. Mitochondrion {ECO:0000250|UniProtKB:O14874}

Tissue Location

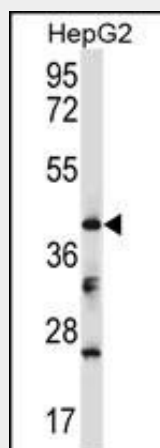
Ubiquitous.

Mouse Bckdk Antibody (Center) - Protocols

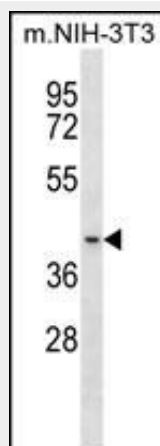
Provided below are standard protocols that you may find useful for product applications.

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

Mouse Bckdk Antibody (Center) - Images



Mouse Bckdk Antibody (Center) (Cat. #AP13798c) western blot analysis in HepG2 cell line lysates (35ug/lane). This demonstrates the Bckdk antibody detected the Bckdk protein (arrow).



Mouse Bckdk Antibody (Center) (Cat. #AP13798c) western blot analysis in mouse NIH-3T3 cell line lysates (35ug/lane). This demonstrates the Bckdk antibody detected the Bckdk protein (arrow).

Mouse Bckdk Antibody (Center) - Background

Catalyzes the phosphorylation and inactivation of the branched-chain alpha-ketoacid dehydrogenase complex, the key regulatory enzyme of the valine, leucine and isoleucine catabolic pathways. Key enzyme that regulate the activity state of the BCKD complex (By similarity).

Mouse Bckdk Antibody (Center) - References

- Pagliarini, D.J., et al. Cell 134(1):112-123(2008)
Lee, J., et al. Mol. Cell Proteomics 6(4):669-676(2007)
Hutson, S.M. Biochem. J. 400 (1), E1-E3 (2006) :
Joshi, M.A., et al. Biochem. J. 400(1):153-162(2006)
Trinidad, J.C., et al. Mol. Cell Proteomics 5(5):914-922(2006)