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Bckdk antibody - N-terminal region

Rabbit Polyclonal Antibody
Catalog # AI13374

Product Information

Application	WB
Primary Accession	Q00972
Other Accession	NM_019244, NP_062117
Reactivity	Human, Mouse, Rat, Rabbit, Dog, Guinea Pig, Bovine
Predicted	Human, Mouse, Pig, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	46474

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.

Protein Information

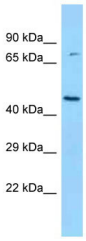
Name	Bckdk
Function	Serine/threonine-protein kinase component of macronutrients metabolism. Forms a functional kinase and phosphatase pair with PPM1K, serving as a metabolic regulatory node that coordinates branched-chain amino acids (BCAAs) with glucose and lipid metabolism via two distinct phosphoprotein targets: mitochondrial BCKDHA subunit of the branched- chain alpha-ketoacid dehydrogenase (BCKDH) complex and cytosolic ACLY, a lipogenic enzyme of Krebs cycle (Probable) (PubMed:1377677, PubMed:7649998). 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 (Probable) (PubMed:1377677, PubMed:7649998). 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 (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.

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).

Images



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

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.