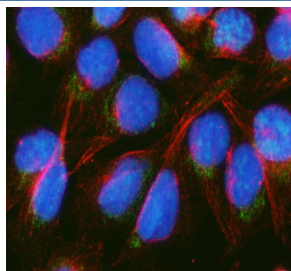


BCKDH E2 Antibody / DBT Antibody (FY13381)

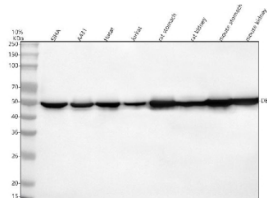
Catalog No.	Formulation	Size
FY13381	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

[Bulk quote request](#)

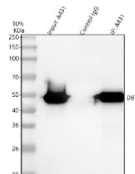
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na ₂ HPO ₄ .
UniProt	P11182
Localization	Mitochondria
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry/Immunofluorescence : 5ug/ml Immunoprecipitation : 2-4ug/500ug of lysate Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This BCKDH E2 Antibody / DBT Antibody is available for research use only.



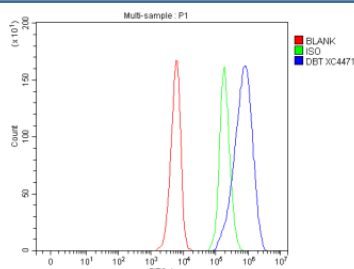
BCKDH E2 Antibody detection in U2OS cells by IF. Immunofluorescence staining of human U2OS cells using the BCKDH E2 Antibody (green) with Beta Tubulin antibody (red). BCKDH E2 shows a granular cytoplasmic distribution surrounding the blue DAPI-stained nuclei, consistent with the mitochondrial localization of DBT. Beta Tubulin highlights the cytoskeletal network and provides clear spatial contrast with the BCKDH E2 signal. Enzyme-mediated antigen retrieval was performed for 15 minutes before overnight primary antibody incubation at 40C. The observed staining demonstrates intracellular detection of dihydrolipoamide branched-chain transacylase E2 with this DBT Antibody.



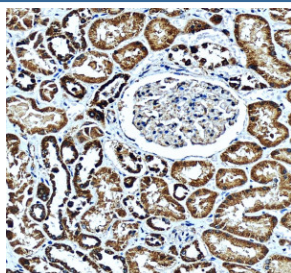
BCKDH E2 Antibody detection across human, rat and mouse samples by WB. Western blot testing with the BCKDH E2 Antibody. Lane 1: human SiHa; lane 2: human cell lysate; lane 3: human HaCaT; lane 4: human Jurkat; lane 5: rat stomach; lane 6: rat kidney; lane 7: mouse stomach; lane 8: mouse kidney. A strong predominant band is detected just below 50 kDa across the samples. This migration is slightly below the predicted 53.5 kDa molecular weight but is consistent with the approximately 52 kDa processed mitochondrial form of DBT. The clean cross-species signal demonstrates recognition with this DBT Antibody.



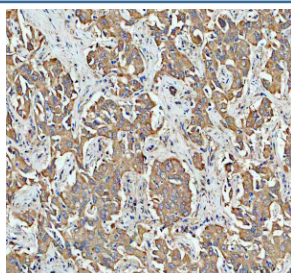
BCKDH E2 Antibody immunoprecipitation of DBT by IP. Immunoprecipitation of BCKDH E2 from whole-cell lysate followed by western blot detection with the BCKDH E2 Antibody. Lane 1: 30 ug whole-cell lysate input; lane 2: rabbit control IgG with whole-cell lysate; lane 3: 2 ug BCKDH E2 Antibody with 500 ug whole-cell lysate. A distinct band just below 50 kDa is present in the input and BCKDH E2 immunoprecipitate while the control IgG lane is negative. The result demonstrates selective enrichment and detection of dihydrolipoamide branched-chain transacylase E2 with this DBT Antibody.



BCKDH E2 Antibody detection in SiHa cells by FACS. Flow cytometry analysis of fixed and permeabilized human SiHa cells using the BCKDH E2 Antibody at 1 ug per million cells. The blue antibody-treated population shows a clear rightward fluorescence shift relative to the green rabbit IgG isotype control and red unstained control. Cells were blocked with normal goat serum before primary antibody incubation and detected with a DyLight 488-conjugated secondary antibody. The distinct fluorescence shift demonstrates intracellular detection of dihydrolipoamide branched-chain transacylase E2 with this DBT Antibody.



BCKDH E2 Antibody staining of human kidney by IHC. Immunohistochemistry of FFPE human kidney sections using the BCKDH E2 Antibody at 2 ug/ml. Strong granular brown cytoplasmic staining is prominent within renal tubular epithelial cells, while glomerular structures show comparatively little staining. Nuclei are counterstained blue and remain largely negative. Heat-mediated antigen retrieval was performed in pH 8 EDTA before antibody incubation. The predominantly cytoplasmic pattern is consistent with the mitochondrial localization of DBT and demonstrates tissue detection of dihydrolipoamide branched-chain transacylase E2 with this DBT Antibody.



BCKDH E2 Antibody staining of human liver cancer by IHC. Immunohistochemistry of FFPE human liver cancer sections using the BCKDH E2 Antibody at 2 ug/ml. Moderate-to-strong brown granular staining is distributed throughout the cytoplasm of many tumor cells, while nuclei are counterstained blue and remain predominantly negative. Staining intensity varies among individual cells but maintains a primarily cytoplasmic distribution consistent with mitochondrial DBT localization. Heat-mediated antigen retrieval was performed in pH 8 EDTA before antibody incubation. The observed staining demonstrates tissue detection of dihydrolipoamide branched-chain transacylase E2 with this DBT Antibody.

Description

BCKDH E2 Antibody / DBT Antibody recognizes dihydrolipoamide branched-chain transacylase E2, a mitochondrial enzyme encoded by the DBT gene. Also known as BCKAD-E2, BCKADE2 and E2B, DBT is the E2 component of the branched-chain alpha-keto acid dehydrogenase complex. This multienzyme complex catalyzes an irreversible step in the degradation of the branched-chain amino acids leucine, isoleucine and valine. DBT is synthesized as a nuclear-encoded precursor and transported into mitochondria, where it participates in the oxidative decarboxylation of branched-chain alpha-keto acids.

The BCKDH complex contains multiple copies of three catalytic components designated E1, E2 and E3. DBT forms the E2 core and functions as a dihydrolipoamide acyltransferase, accepting acyl groups generated by the E1 component and transferring them to coenzyme A. Lipoyl domains within DBT provide flexible reaction centers that facilitate movement of metabolic intermediates among the catalytic components of the complex. A BCKDH E2 Antibody can therefore support research examining the organization and function of this mitochondrial enzyme complex and the regulation of branched-chain amino acid catabolism.

BCKDH activity is tightly regulated to coordinate branched-chain amino acid utilization with cellular metabolic requirements. Impaired DBT function disrupts oxidative metabolism of branched-chain alpha-keto acids and can result in accumulation of branched-chain amino acids and their corresponding keto acids. Pathogenic variants in DBT are associated with maple syrup urine disease type II, reflecting the essential contribution of the E2 component to BCKDH complex activity. A DBT Antibody is therefore relevant to research investigating mitochondrial metabolism, branched-chain amino acid homeostasis and molecular mechanisms underlying defects in BCKDH function.

DBT is also recognized as a mitochondrial autoantigen in primary biliary cholangitis, where immune responses can target lipoylated components of mitochondrial dehydrogenase complexes. This provides an additional connection between BCKDH E2 biology, mitochondrial proteins and autoimmune research. More broadly, regulation of branched-chain amino acid catabolism is relevant to metabolic adaptation and cellular energy homeostasis. NSJ Bioreagents provides this polyclonal reagent for researchers investigating DBT and mitochondrial metabolism. A BCKDH E2 Antibody provides a useful tool for studying DBT, BCKDH complex biology and branched-chain amino acid metabolism.

This BCKDH E2 Antibody is part of our [Metabolism Antibodies](#) collection.

Application Notes

Optimal dilution of the BCKDH E2 Antibody / DBT Antibody should be determined by the researcher.

Immunogen

E.coli-derived human DBT recombinant protein (Position: K46-R462) was used as the immunogen for the BCKDH E2 antibody.

Storage

After reconstitution, the BCKDH E2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

DBT antibody, BCKAD-E2 antibody, BCKADE2 antibody, BCATE2 antibody, BCOADC-E2 antibody, E2B antibody, Dihydrolipoamide branched chain transacylase E2 antibody