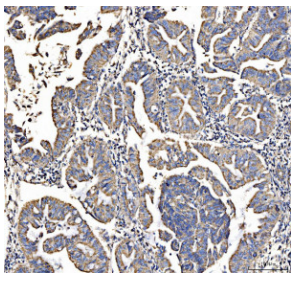
DLST Antibody / Dihydrolipoamide Succinyltransferase Antibody (FY13511)

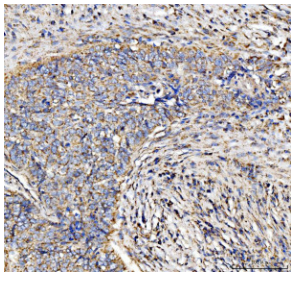
Catalog No.	Formulation	Size
FY13511	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

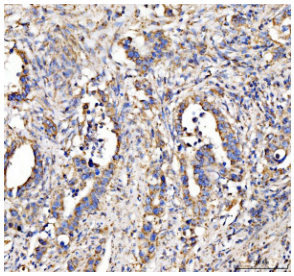
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen Affinity
Buffer	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4
UniProt	O43570
Applications	Western Blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml ELISA: 0.1-0.5ug/ml Immunofluorescence: 5ug/ml
Limitations	This DLST Antibody / Dihydrolipoamide Succinyltransferase Antibody is available for research use only.



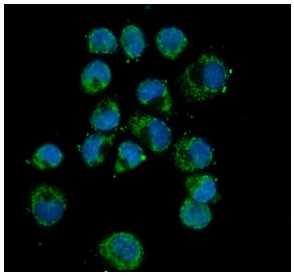
DLST Antibody by IHC in human colon cancer. Immunohistochemistry of FFPE human colon cancer tissue using DLST Antibody at 2 ug/ml. Brown DAB immunoreactivity is detected in the tissue section, with hematoxylin counterstaining highlighting cellular and glandular architecture. Heat-induced epitope retrieval was performed using EDTA buffer at pH 8.0, followed by overnight primary antibody incubation at 4oC. This Dihydrolipoamide Succinyltransferase Antibody detects the mitochondrial E2 component of the alpha-ketoglutarate dehydrogenase complex.



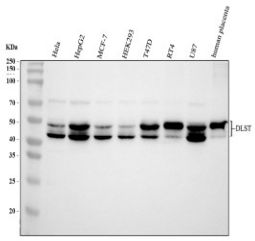
DLST Antibody by IHC in human lung cancer. Immunohistochemistry of FFPE human lung cancer tissue using DLST Antibody at 2 ug/ml. Brown DAB immunoreactivity is detected in the tissue section, demonstrating DLST expression. Hematoxylin counterstaining highlights nuclei and surrounding tissue architecture. Heat-induced epitope retrieval was performed using EDTA buffer at pH 8.0, followed by overnight primary antibody incubation at 4oC. This Dihydrolipoamide Succinyltransferase Antibody recognizes a mitochondrial enzyme involved in cellular energy metabolism.



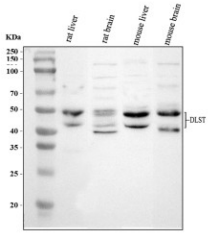
DLST Antibody by IHC in human appendix tissue. Immunohistochemistry of FFPE human appendix tissue using DLST Antibody at 2 ug/ml. Brown DAB immunoreactivity is detected in the tissue section, with hematoxylin counterstaining highlighting nuclei and tissue architecture. Heat-induced epitope retrieval was performed using EDTA buffer at pH 8.0, followed by overnight primary antibody incubation at 4oC. This Dihydrolipoamide Succinyltransferase Antibody recognizes a mitochondrial enzyme involved in oxidative metabolism.



DLST Antibody by IF/ in human T47D cells. Immunofluorescence staining of human T47D cells using DLST Antibody at 5 ug/ml. Green fluorescence indicates DLST immunoreactivity, while nuclei are counterstained blue with DAPI. Enzymatic antigen retrieval was performed for 15 minutes, followed by overnight primary antibody incubation at 4oC. Fluoro488-conjugated goat anti-rabbit IgG was used at 1:500. This Dihydrolipoamide Succinyltransferase Antibody detects a mitochondrial enzyme involved in the TCA cycle.



DLST Antibody by WB in human cells and placenta tissue. Western blot analysis using DLST Antibody at 0.5 ug/ml. Lanes 1-7: human HeLa, HepG2, MCF7, HEK293, T47D, RT4, and U87 cell lysates; lane 8: human placenta tissue lysate. Samples were separated by 10% SDS-PAGE under reducing conditions, with 30 ug of protein loaded per lane. Immunoreactive bands are detected at approximately 43 and 49 kDa, consistent with the reported migration range of DLST. This Dihydrolipoamide Succinyltransferase Antibody recognizes the E2 component of the mitochondrial alpha-ketoglutarate dehydrogenase complex.



DLST Antibody by WB in rat and mouse liver and brain tissue. Western blot analysis of rat liver (lane 1), rat brain (lane 2), mouse liver (lane 3), and mouse brain (lane 4) lysates using DLST Antibody at 0.5 ug/ml. Samples were separated by 10% SDS-PAGE under reducing conditions, with 30 ug of protein loaded per lane. Immunoreactive bands are detected at approximately 43 and 49 kDa, consistent with the reported molecular weight range of DLST. This Dihydrolipoamide Succinyltransferase Antibody detects a mitochondrial enzyme involved in the TCA cycle and cellular energy metabolism.

Description

DLST Antibody recognizes dihydrolipoamide succinyltransferase, a mitochondrial enzyme encoded by the DLST gene. Also known as dihydrolipoamide S-succinyltransferase and the E2 component of the 2-oxoglutarate dehydrogenase complex, DLST plays an essential role in the tricarboxylic acid (TCA) cycle. The enzyme participates in the oxidative decarboxylation of alpha-ketoglutarate to succinyl-CoA, a reaction that generates NADH for mitochondrial oxidative phosphorylation. Through this activity, DLST contributes to cellular energy production, carbon metabolism, and the regulation of mitochondrial function.

The human DLST gene is located on chromosome 14q24.3 and encodes a precursor protein of approximately 453 amino acids with a calculated molecular weight near 49 kDa. DLST contains an N-terminal mitochondrial targeting sequence that directs the protein into the mitochondrial matrix, where the targeting sequence is removed during maturation. The enzyme also contains a lipoyl-binding domain, a peripheral subunit-binding region, and a catalytic domain responsible for succinyl transfer. Covalent attachment of lipoic acid to a conserved lysine residue enables the transfer of reaction intermediates between catalytic sites within the multienzyme complex.

DLST functions as the E2 component of the alpha-ketoglutarate dehydrogenase complex, which also contains the E1

enzyme OGDH and the E3 enzyme DLD. These components cooperate to convert alpha-ketoglutarate into succinyl-CoA while reducing NAD+ to NADH and releasing carbon dioxide. DLST forms the structural core of the complex and facilitates the movement of reaction intermediates between its enzymatic components. This organization supports efficient substrate processing and helps coordinate mitochondrial metabolic activity. The Dihydrolipoamide Succinyltransferase Antibody is relevant to research investigating mitochondrial enzyme complexes, TCA cycle regulation, and cellular bioenergetics.

Changes in DLST activity can influence mitochondrial respiration, cellular redox balance, and metabolic adaptation. Impaired alpha-ketoglutarate dehydrogenase complex function has been investigated in neurodegenerative disorders, oxidative stress, and metabolic dysfunction. DLST is also relevant to cancer metabolism, where altered TCA cycle activity can affect the availability of metabolic intermediates required for biosynthesis and cellular proliferation. These associations highlight the importance of mitochondrial enzyme regulation in maintaining cellular homeostasis.

Research involving DLST focuses on mitochondrial energy production, enzyme complex assembly, lipoic acid-dependent catalysis, and metabolic regulation. Understanding DLST function provides insight into how cells coordinate nutrient oxidation with ATP generation and biosynthetic demands. NSJ Bioreagents offers antibodies targeting DLST for studies of mitochondrial metabolism and cellular respiration. A DLST Antibody provides a research tool for examining dihydrolipoamide succinyltransferase expression and its involvement in the TCA cycle, mitochondrial function, and cellular energy homeostasis.

Explore our Mitochondria Marker Antibodies collection for additional antibodies targeting mitochondrial enzymes, metabolic regulators, and proteins involved in cellular energy production.

Application Notes

Optimal dilution of the DLST Antibody / Dihydrolipoamide Succinyltransferase Antibody should be determined by the researcher.

Immunogen

E.coli-derived human Dihydrolipoamide Succinyltransferase recombinant protein (amino acids M1-L453) was used as the immunogen for the DLST Antibody.

Storage

After reconstitution, the DLST 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

Dihydrolipoamide Succinyltransferase antibody, Dihydrolipoamide S-Succinyltransferase antibody, Dihydrolipoyl Succinyltransferase antibody, 2-Oxoglutarate Dehydrogenase E2 Subunit antibody, Alpha-Ketoglutarate Dehydrogenase E2 antibody, OGDC-E2 antibody

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