abcam

ab110306

Anti-DLST antibody [9F4BD5]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.5 Preservative: 0.02% Sodium azide Constituents: HEPES buffered saline
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	9F4BD5
Purification technique	Proprietary technique
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	The purity of ab110306 is near homogeneity as judged by SDS-PAGE (purity >95%). The antibody was produced in vitro using hybridomas grown in serum-free medium, and then purified by biochemical fractionation.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1 µg/mL

Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

ICC/IF

Tested

Species	Human
Dilution info	1 µg/mL
Notes	-

Target data

See full target information DLST

Function	Dihydrolipoamide succinyltransferase (E2) component of the 2-oxoglutarate dehydrogenase complex. The 2-oxoglutarate dehydrogenase complex catalyzes the overall conversion of 2-oxoglutarate to succinyl-CoA and CO(2). The 2-oxoglutarate dehydrogenase complex is mainly active in the mitochondrion (PubMed:29211711, PubMed:30929736). A fraction of the 2-oxoglutarate dehydrogenase complex also localizes in the nucleus and is required for lysine succinylation of histones: associates with KAT2A on chromatin and provides succinyl-CoA to histone succinyltransferase KAT2A (PubMed:29211711).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	DLST also known as dihydrolipoamide S-succinyltransferase is an essential component of the 2-oxoglutarate dehydrogenase complex (OGDC). It possesses a molecular mass of approximately 48 kDa. Expressed primarily in mitochondrial matrices within mammalian tissues DLST plays a mechanical role in catalyzing the transfer of succinyl groups to coenzyme-A from S-succinyldihydrolipoyllysine. The target is integral to the energy metabolism processes occurring within cells especially in tissues with high energy demands such as the heart and skeletal muscles.
Biological function summary	The DLST enzyme acts within the tricarboxylic acid (TCA) cycle also known as the Krebs cycle or citric acid cycle. It forms a critical part of the multi-enzyme complex OGDC facilitating the oxidative decarboxylation of 2-oxoglutarate an important step in the TCA cycle. Through this action DLST helps produce succinyl-CoA a molecule pivotal for energy and biosynthetic processes. The activity of this protein ensures continuous energy supply and intermediary metabolite flow within cellular respiration.
Pathways	DLST plays a significant role within both the TCA cycle and the broader metabolic pathway of oxidative phosphorylation. These are important for efficient cellular energy production connecting many metabolic reactions and facilitating ATP generation. OGDC where DLST performs its function interacts with various proteins such as E1 (2-oxoglutarate dehydrogenase) and E3 (dihydrolipoamide dehydrogenase). This interaction is necessary to efficiently process and interconvert energy substrates for cellular use.
Associated diseases and disorders	DLST has been implicated in conditions such as neurodegenerative diseases including Alzheimer's disease. Alterations in DLST activity or expression can lead to energy production defects contributing to the metabolic disturbances observed in these conditions. Additionally mutations or dysregulation within the OGDC complex featuring DLST are associated with some forms of cancer where metabolic reprogramming occurs. In both contexts the interaction between DLST and other complex components such as E3 displays potential involvement in disease mechanisms marking it as a target worth studying for therapeutic interventions.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

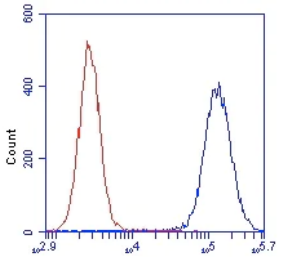
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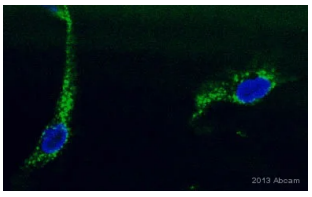
4 product images



Flow Cytometry - Anti-DLST antibody [9F4BD5] (ab110306)

DLST Flow Cytometry staining using mouse Anti-DLST antibody

HL-60 cells were stained with 1 µg/mL ab110306 (blue) or an equal amount of an isotype control antibody (red) and analyzed by Flow Cytometry.

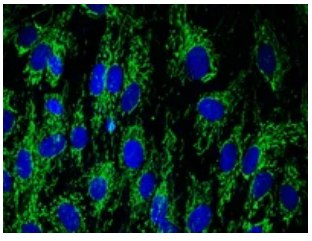


This image is courtesy of an anonymous customer review

Immunocytochemistry/ Immunofluorescence - Anti-DLST antibody [9F4BD5] (ab110306)

DLST Immunocytochemistry/ Immunofluorescence staining using mouse Anti-DLST antibody

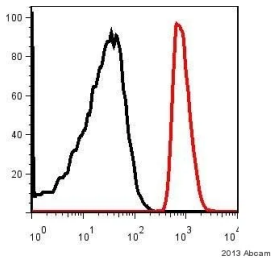
ab110306 staining DLST in Human monocyte-derived macrophages by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with paraformaldehyde, permeabilized with Triton X-100 0.1% and blocked with 5% Goat serum for 60 minutes at 21°C. Samples were incubated with primary antibody (1/1000 in PBS + 1% BSA) for 12 hours at 4°C. A Cy2®-conjugated Goat anti-mouse IgG polyclonal was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-DLST antibody [9F4BD5] (ab110306)

DLST Immunocytochemistry/ Immunofluorescence staining using mouse Anti-DLST antibody

Immunocytochemistry image of ab110306-stained Human HDFn cells. The cells were paraformaldehyde fixed (4%, 20 min) and Triton X-100 permeabilized (0.1%, 15 min). Cells were then incubated with ab110306 at 1 µg/ml for 2 h at room temperature or over night at 4°C. The secondary antibody was (green) Alexa Fluor® 488 goat anti-mouse IgG (H+L) used at a 1/1000 dilution for 1 h. 10% Goat serum was used as the blocking agent for all blocking steps. DAPI was used to stain the cell nuclei (blue). Target protein locates mainly in mitochondria.



This image is courtesy of an anonymous customer review

Flow Cytometry - Anti-DLST antibody [9F4BD5] (ab110306)

ab110306 staining DLST in Human monocyte-derived macrophages by Flow Cytometry. Cells were prepared by scraoing in PBS and fixation by paraformaldehyde. The sample was incubated with the primary antibody (1/1000 in PBS + 1% BSA) for 60 minutes at 4°C. An Alexa Fluor®488-conjugated Goat anti-mouse IgG polyclonal(1/100) was used as the secondary antibody.
Gating Strategy: Dead cells excluded.

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