Anti-SDHA [2E3GC12FB2AE2] antibody ab14715

MitoSciences® (MS204)

19 Abreviews | 40 References | 6 Images

Overview

Product name	Anti-SDHA [2E3GC12FB2AE2] antibody
Description	Mouse monoclonal [2E3GC12FB2AE2] to SDHA
Tested applications	ICC, IHC-Fr, Flow Cyt, ICC/IF, WB, IHC-P
Species reactivity	**Reacts with:** Mouse, Rat, Cow, Dog, Human, Caenorhabditis elegans
Immunogen	Purified mitochondrial complex II (Cow).
Positive control	Human heart mitochondria.

Properties

Form	Liquid
Storage instructions	Store at +4°C.
Storage buffer	Preservative: 0.02% Sodium Azide Constituents: HEPES buffered saline
Purity	IgG fraction
Purification notes	Near homogeneity as judged by SDS-PAGE. The antibody was produced in vitro using hybridomas grown in serum-free medium, and then purified by biochemical fractionation.
Clonality	Monoclonal
Clone number	2E3GC12FB2AE2
Isotype	IgG1
Light chain type	kappa

Applications

Our Abpromise guarantee covers the use of **ab14715** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Notes
ICC	Use a concentration of 0.2 µg/ml. Requires heat-induced antigen retrieval where aldehydes are used as fixatives. Use 20min incubation at 90-100°C in 0.1 M Tris/HCl pH 9.5 with 5% urea (wt/vol).
IHC-Fr	Use at an assay dependent concentration.
Flow Cyt	Use a concentration of 1 µg/ml.
ICC/IF	1/200.
WB	Use a concentration of 0.1 µg/ml. Detects a band of approximately 70 kDa (predicted molecular weight: 70 kDa).
IHC-P	Use at an assay dependent concentration. PubMed: 20484225

Target

Function	Flavoprotein (FP) subunit of succinate dehydrogenase (SDH) that is involved in complex II of the mitochondrial electron transport chain and is responsible for transferring electrons from succinate to ubiquinone (coenzyme Q).
Pathway	Carbohydrate metabolism; tricarboxylic acid cycle; fumarate from succinate (eukaryal route): step 1/1.
Involvement in disease	Defects in SDHA are a cause of mitochondrial complex II deficiency (MT-C2D) [MIM:252011]. A disorder of the mitochondrial respiratory chain with heterogeneous clinical manifestations. Clinical features include psychomotor regression in infants, poor growth with lack of speech development, severe spastic quadriplegia, dystonia, progressive leukoencephalopathy, muscle weakness, exercise intolerance, cardiomyopathy. Some patients manifest Leigh syndrome or Kearns-Sayre syndrome. Defects in SDHA are a cause of Leigh syndrome (LS) [MIM:256000]. LS is a severe disorder characterized by bilaterally symmetrical necrotic lesions in subcortical brain regions. Defects in SDHA are the cause of cardiomyopathy dilated type 1GG (CMD1GG) [MIM:613642]. CMD1GG is a disorder characterized by ventricular dilation and impaired systolic function, resulting in congestive heart failure and arrhythmia. Patients are at risk of premature death.
Sequence similarities	Belongs to the FAD-dependent oxidoreductase 2 family. FRD/SDH subfamily.
Cellular localization	Mitochondrion inner membrane.

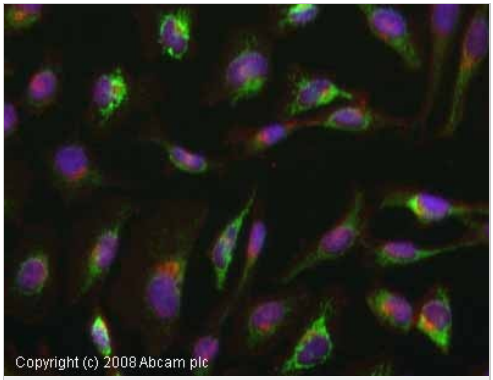
Target information above from: UniProt accession P31040

The UniProt Consortium

The Universal Protein Resource (UniProt) in 2010

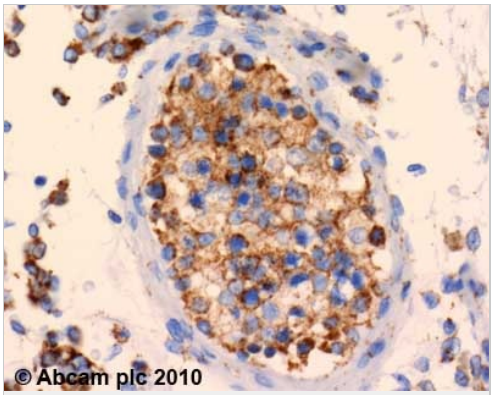
Nucleic Acids Res. 38:D142-D148 (2010) .

Anti-SDHA [2E3GC12FB2AE2] antibody images



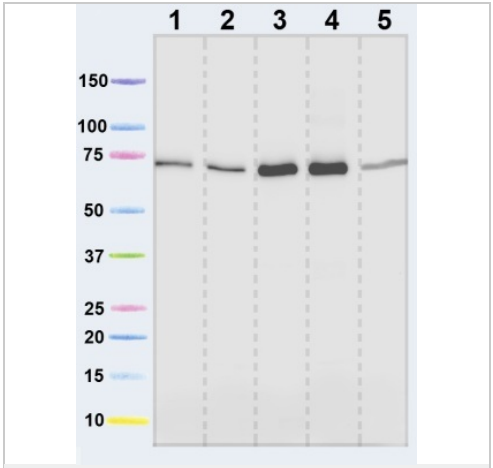
Immunocytochemistry/ Immunofluorescence - SDHA antibody [2E3] (ab14715)

ICC/IF image of ab14715 stained human HeLa cells. The cells were 4% PFA fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab14715, 5µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-mouse IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue). This antibody also gave a positive IF result in Hek293, HepG2 and MCF7 cells.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - SDHA antibody [2E3] (ab14715)

ab14715 (2µg/ml) staining SDHA in human testis using an automated system (DAKO Autostainer Plus). Using this protocol there is cytoplasmic and mitochondrial staining within the seminal vesicles.
Sections were rehydrated and antigen retrieved with the Dako 3 in 1 AR buffer EDTA pH 9.0 in a DAKO PT link. Slides were peroxidase blocked in 3% H2O2 in methanol for 10 mins. They were then blocked with Dako Protein block for 10 minutes (containing casein 0.25% in PBS) then incubated with primary antibody for 20 min and detected with Dako envision flex amplification kit for 30 minutes. Colorimetric detection was completed with Diaminobenzidine for 5 minutes. Slides were counterstained with Haematoxylin and coverslipped under DePeX. Please note that, for manual staining, optimization of primary antibody concentration and incubation time is recommended. Signal amplification may be required.

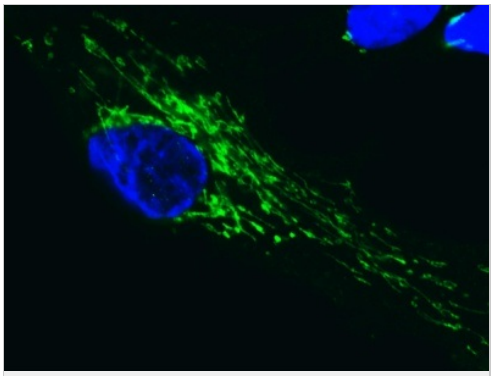


Western blot - SDHA antibody [2E3] (ab14715)

All lanes : Anti-SDHA [2E3GC12FB2AE2] antibody (ab14715)

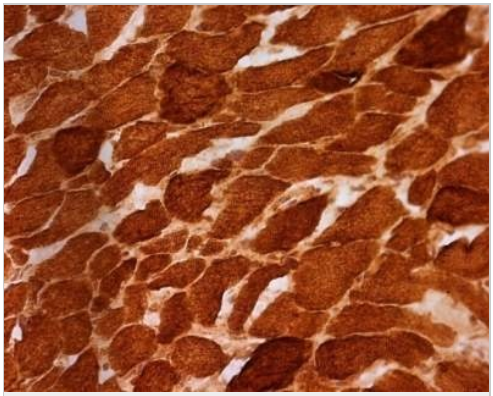
Lane 1 : Isolated mitochondria from Human heart at 5 µg
Lane 2 : Isolated mitochondria from Bovine heart at 4 µg
Lane 3 : Isolated mitochondria from Rat heart at 10 µg
Lane 4 : Isolated mitochondria from Mouse heart at 10 µg
Lane 5 : Isolated mitochondria from HepG2 at 20 µg

Predicted band size : 70 kDa
Observed band size : 70 kDa



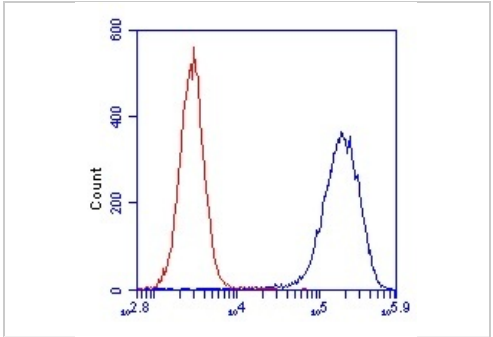
Immunocytochemistry/ Immunofluorescence - SDHA antibody [2E3] (ab14715)

Mitochondrial localization of complex II visualized by immunocytochemistry using ab14715. Cultured human embryonic lung-derived fibroblasts (strain MRC5) were fixed, permeabilized and then labeled with ab14715 (0.2 µg/ml) followed by an AlexaFluor® 488-conjugated-goat-anti-mouse IgG2a isotype specific secondary antibody (2 µg/ml).



Immunohistochemistry (Frozen sections) - SDHA antibody [2E3] (ab14715)

Skeletal muscle immunohistochemistry using ab14715. Fixed frozen tissue sections from a patient with a single large deletion of the mtDNA were used. All muscle fibers exhibit complex II immunoreactivity, consistent with the nuclear DNA-encoded expression pattern of this and all other subunits of complex II.



Flow Cytometry - SDHA antibody [2E3] (ab14715)

HL-60 cells were stained with 1 µg/mL ab14715 (blue) or an equal amount of an isotype control antibody (red) and analyzed by flow cytometry.

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