abcam

Product datasheet

HRP Anti-SDHA antibody [2E3GC12FB2AE2] ab198493

KO VALIDATED

3 Images

Overview

Product name	HRP Anti-SDHA antibody [2E3GC12FB2AE2]
Description	HRP Mouse monoclonal [2E3GC12FB2AE2] to SDHA
Host species	Mouse
Conjugation	HRP
Tested applications	**Suitable for:** IHC-P, WB
Species reactivity	**Reacts with:** Human **Predicted to work with:** Mouse
Immunogen	Tissue, cells or virus corresponding to Cow SDHA. Purified mitochondrial complex II (Cow). Database link: **P31039**
Positive control	WB: Human heart mitochondrial tissue lysate. IHC-P: Normal human colon tissue.
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle. Store In the Dark.
Storage buffer	pH: 7.40 Preservative: 0.1% Proclin 300 Solution Constituents: 30% Glycerol (glycerin, glycerine), 1% BSA, PBS
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

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab198493 in the following tested applications.

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

Application	Abreviews	Notes
IHC-P		1/100. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
WB		1/5000. Detects a band of approximately 70 kDa (predicted molecular weight: 70 kDa).

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).

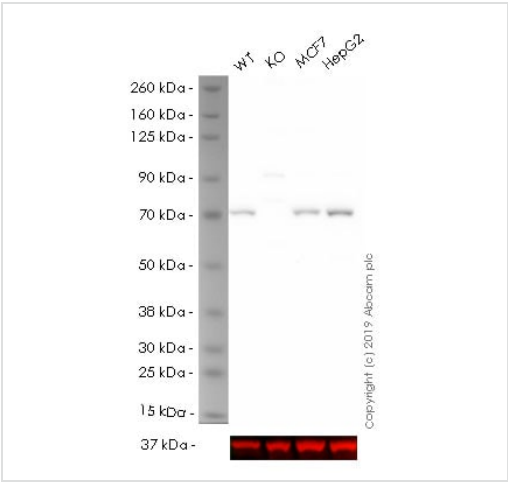
Pathway Carbohydrate metabolism; tricarboxylic acid cycle; fumarate from succinate (eukaryal route): step 1/1.

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.

Images



Western blot - HRP Anti-SDHA antibody [2E3GC12FB2AE2] (ab198493)

All lanes : HRP Anti-SDHA antibody [2E3GC12FB2AE2] (ab198493) at 1/5000 dilution

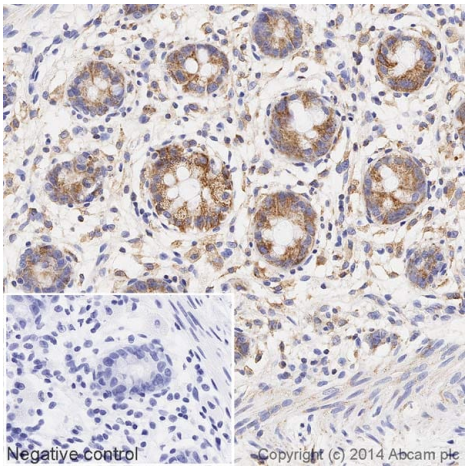
Lane 1 : Wild-type HEK-293 (Human epithelial cell line from embryonic kidney) whole cell lysate
Lane 2 : SDHA knockout HEK-293 (Human epithelial cell line from embryonic kidney) whole cell lysate
Lane 3 : MCF7 (Human breast adenocarcinoma cell line) whole cell lysate
Lane 4 : Hep G2 (Human liver hepatocellular carcinoma cell line) whole cell lysate

Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Predicted band size: 70 kDa

ab198493 was shown to specifically react with SDHA in wild-type HEK-293 cells as signal was lost in SDHA knockout cells. Wild-type and SDHA knockout samples were subjected to SDS-PAGE. Ab198493 and **ab181602** (Rabbit monoclonal to GAPDH - Loading Control loading) were incubated overnight at 4°C at 1/5000 dilution and 1/20000 dilution respectively. The loading control was imaged using the Licor Odyssey CLx prior to blots being developed with ECL technique.

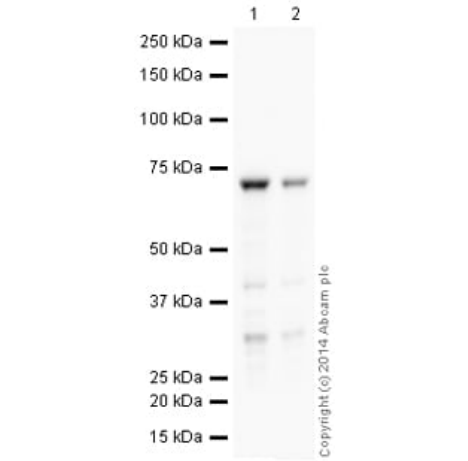


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - HRP Anti-SDHA antibody [2E3GC12FB2AE2] (ab198493)

IHC image of SDHA staining in a section of formalin-fixed paraffin-embedded normal human colon*, performed on a Leica BOND. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20mins. The section was then incubated with ab198493, 1/100 dilution, for 15 mins at room temperature. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset negative control image is taken from an identical assay without primary antibody.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

*Tissue obtained from the Human Research Tissue Bank, supported by the NIHR Cambridge Biomedical Research Centre.



Western blot - HRP Anti-SDHA antibody [2E3GC12FB2AE2] (ab198493)

All lanes : HRP Anti-SDHA antibody [2E3GC12FB2AE2] (ab198493) at 1/5000 dilution

Lane 1 : Human heart tissue lysate - mitochondrial extract (**ab110337**) at 10 µg
Lane 2 : Human heart tissue lysate - mitochondrial extract (**ab110337**) at 5 µg

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 70 kDa
Observed band size: 72 kDa
Additional bands at: 31 kDa (possible non-specific binding), 42 kDa (possible non-specific binding)

Exposure time: 10 seconds

This blot was produced using a 4-12% Bis-tris gel under the MOPS buffer system. The gel was run at 200V for 50 minutes before being transferred onto a Nitrocellulose membrane at 30V for 70 minutes. The membrane was then blocked for an hour using 3% milk before being incubated with ab198493 overnight at 4°C. Antibody binding was visualised using ECL development solution **ab133406**.

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