abcam

ab240098

Anti-SDHA antibody [EPR9043(B)] - BSA and Azide free

Anti-SDHA antibody [EPR9043(B)] - BSA and Azide free (ab240098) is a rabbit recombinant monoclonal antibody provided in a PBS only buffer for easy conjugation. Suitable for **Western Blot, Flow Cytometry (Intra), IP, IHC-P, ICC/IF** in **Human, Mouse, Rat**.

- KO validated for confirmed specificity
- BSA, sodium azide, and glycerol-free for easy conjugation
- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR9043(B)
Purification technique	Affinity purification Protein A
Concentration	0.97 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	ab199376 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information SDHA

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) (PubMed:10746566, PubMed:24781757). SDH also oxidizes malate to the non-canonical enol form of oxaloacetate, enol-oxaloacetate (By similarity). Enol-oxaloacetate, which is a potent inhibitor of the succinate dehydrogenase activity, is further isomerized into keto-oxaloacetate (By similarity). Can act as a tumor suppressor (PubMed:20484225).

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

What is this antibody validated in?
Anti-SDHA antibody [EPR9043(B)] - BSA and Azide free (ab240098) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Flow Cytometry (Flow Cyt), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

What is the molecular weight of SDHA?
Anti-SDHA [EPR9043(B)] - BSA and Azide free (ab240098) specifically detects a band for SDHA (UniProt: P31040) at a molecular weight of 72kDa.

Other related products
We have a range of other formats of antibody clone [EPR9043(B)] also available for your convenience: ab137040, Carrier free - ab240098, PE - ab305832, APC - ab305833, HRP - ab305834, Alkaline Phosphatase - ab308733, Alexa Fluor® 488 - ab309691, Alexa Fluor® 647 - ab310057, Alexa Fluor® 594 - ab310449, Alexa Fluor® 555 - ab311977, Alexa Fluor® 568 - ab312451, Alexa Fluor® 750 - ab321101

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	Succinate dehydrogenase complex flavoprotein subunit A (SDHA) also known as complex II Fp or SDH2 plays an important role in the mitochondrial electron transport chain and the tricarboxylic acid (TCA) cycle. It functions as a flavoprotein oxidoreductase catalyzing the oxidation of succinate to fumarate. With a molecular mass of approximately 72 kDa SDHA is expressed in the inner mitochondrial membrane of eukaryotic cells where it is a core component of the succinate dehydrogenase complex (SDHC). The complex is essential for cellular respiration and energy production.
Biological function summary	SDHA participates in the TCA cycle by accepting electrons from succinate which it donates to the coenzyme Q in the electron transport chain. This essential role connects SDHA to the regulation of ATP production in cells. SDHA operates as part of the larger succinate dehydrogenase (SDH) complex which includes other subunits such as SDHB SDHC and SDHD. This structurally integrated multisubunit complex influences mitochondrial integrity and cellular energy homeostasis.
Pathways	SDHA is deeply involved in the TCA cycle and oxidative phosphorylation pathway. As a part of these pathways it links to other critical enzymes such as fumarase and aconitase working in concert to drive the conversion of biochemical fuel into usable cellular energy. Its interactions with coenzyme Q and cytochrome complex enzymes are important for electron flow and proton gradient formation across the mitochondrial membrane. Such interactions are central to cellular respiration and energy generation.
Associated diseases and disorders	Mutations in SDHA correlate with various mitochondrial diseases and cancer syndromes. Specifically SDHA mutations have an association with Leigh syndrome and certain types of mitochondrial complex II deficiency. These mutations disrupt the function of the SDH complex causing metabolic imbalances and energy production issues. Furthermore the integral interaction of SDHA with other SDH subunits means that alterations can impact this entire enzymatic complex with implications for cellular respiration and disease progression.

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

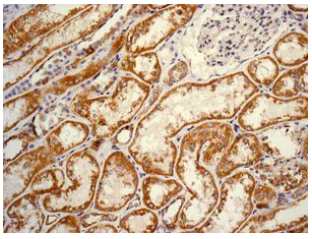
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

10 product images

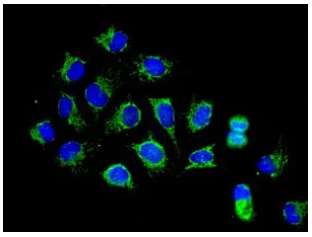


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SDHA antibody [EPR9043(B)] - BSA and Azide free (ab240098)

SDHA Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-SDHA antibody

Immunohistochemichal analysis of paraffin embedded human kidney tissue labelling SDHA with ab137040 at 1/50 dilution.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab137040).

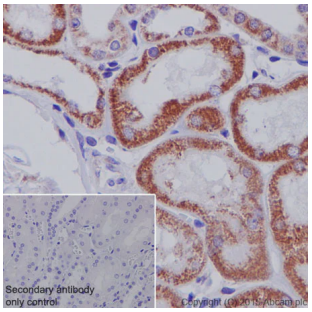
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-SDHA antibody [EPR9043(B)] - BSA and Azide free (ab240098)

SDHA Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SDHA antibody

Immunofluorescence analysis of HeLa (Human epithelial cell line from cervix adenocarcinoma) cells labelling SDHA with ab137040 at 1/100 dilution.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab137040).

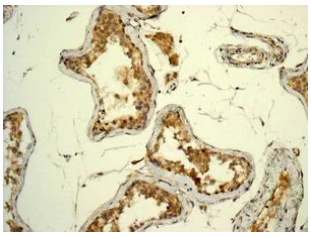


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SDHA antibody [EPR9043(B)] - BSA and Azide free (ab240098)

SDHA Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-SDHA antibody

ab137040 staining SDHA in human kidney tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with paraformaldehyde and antigen retrieval was by heat mediation in a EDTA buffer. Samples were incubated with primary antibody at a dilution of 1/1000. A goat anti-rabbit IgG H&L (HRP) ab97051 was used as the secondary antibody at a dilution of 1/500.
Negative control 1: PBS in place of primary antibody.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab137040).

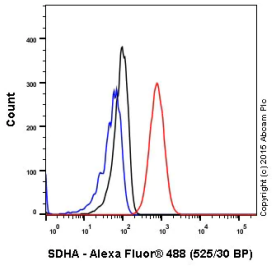


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SDHA antibody [EPR9043(B)] - BSA and Azide free (ab240098)

SDHA Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-SDHA antibody

Immunohistochemichal analysis of paraffin embedded human testis tissue labelling SDHA with ab137040 at 1/50 dilution.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab137040).

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



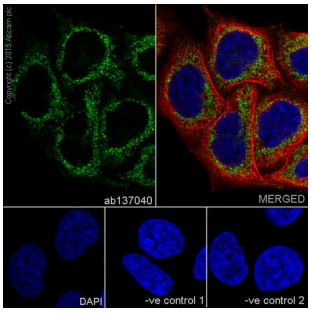
Flow Cytometry (Intracellular) - Anti-SDHA antibody [EPR9043(B)] - BSA and Azide free (ab240098)

SDHA Flow Cytometry (Intracellular) staining using rabbit Anti-SDHA antibody

ab137040 staining SDHA in the human cell line HeLa (human cervix adenocarcinoma) by intracellular flow cytometry. Cells were fixed with 4% paraformaldehyde and the sample was incubated with the primary antibody at a dilution of 1/500. A goat anti rabbit IgG (Alexa Fluor® 488) at a dilution of 1/500 was used as the secondary antibody.
Isoytype control: Rabbit monoclonal IgG (Black)

Unlabelled control: Cell without incubation with primary antibody and secondary antibody (Blue)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab137040).

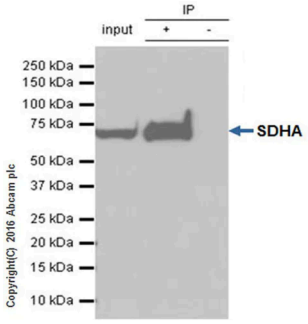


Immunocytochemistry/ Immunofluorescence - Anti-SDHA antibody [EPR9043(B)] - BSA and Azide free (ab240098)

SDHA Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SDHA antibody

ab137040 staining SDHA in HeLa (human cervix adenocarcinoma) cells by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with 4% Paraformaldehyde and permeabilized with 0.1% Triton X-100. Samples were incubated with primary antibody at a dilution of 1/250. A goat anti rabbit IgG (Alexa Fluor® 488) (ab150077) was used as the secondary antibody. ab7291 and ab150120 were used as counterstains for primary antibody ab137040 and secondary antibody ab150077 respectively and DAPI was used as a nuclear counterstain.
Negative control 1: Rabbit primary antibody and anti-mouse secondary antibody (ab150120)
Negative control 2: Mouse primary antibody (ab7291) and anti-rabbit secondary antibody (ab150077)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab137040).



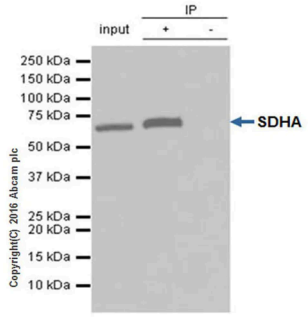
Immunoprecipitation - Anti-SDHA antibody [EPR9043(B)] - BSA and Azide free (ab240098)

ab137040 immunoprecipitating SDHA. 10µg of HeLa (human cervix adenocarcinoma) cell lysate was incubated with primary antibody at a dilution of 1/20 and VeriBlot for IP Detection Reagent (HRP) (ab131366) at a dilution of 1/10000.
Lane 1: HeLa whole cell lysate (10ug)
Lane 2: ab137040 in HeLa whole cell lysate
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab137040 in HeLa whole cell lysate

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab137040).

All lanes:
Immunoprecipitation - Anti-SDHA antibody [EPR9043(B)] (ab137040)

Predicted band size: 72 kDa



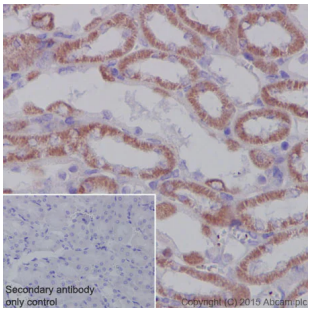
Immunoprecipitation - Anti-SDHA antibody [EPR9043(B)] - BSA and Azide free (ab240098)

ab137040 immunoprecipitating SDHA. 10µg of Jurkat (Human T cell leukemia cell line from peripheral blood) cell lysate was incubated with primary antibody at a dilution of 1/20 and VeriBlot for IP Detection Reagent (HRP) (ab131366) at a dilution of 1/10000.
Lane 1: Jurkat whole cell lysate 10ug
Lane 2: ab137040 IP in Jurkat whole cell lysate
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab137040 in Jurkat whole cell lysate

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab137040).

All lanes:
Immunoprecipitation - Anti-SDHA antibody [EPR9043(B)] (ab137040)

Predicted band size: 72 kDa

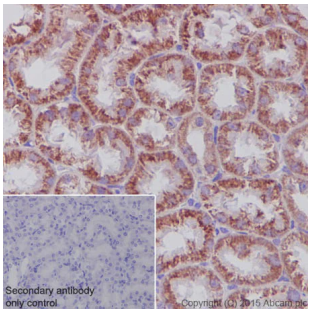


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SDHA antibody [EPR9043(B)] - BSA and Azide free (ab240098)

SDHA Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-SDHA antibody

ab137040 staining SDHA in mouse kidney tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with paraformaldehyde and antigen retrieval was by heat mediation in a EDTA buffer. Samples were incubated with primary antibody at a dilution of 1/1000. A goat anti-rabbit IgG H&L (HRP) ab97051 was used as the secondary antibody at a dilution of 1/500.
Negative control 1: PBS in place of primary antibody.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab137040).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SDHA antibody [EPR9043(B)] - BSA and Azide free (ab240098)

SDHA Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-SDHA antibody

ab137040 staining SDHA in rat kidney tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with paraformaldehyde and antigen retrieval was by heat mediation in a EDTA buffer. Samples were incubated with primary antibody at a dilution of 1/1000. A goat anti-rabbit IgG H&L (HRP) ab97051 was used as the secondary antibody at a dilution of 1/500.
Negative control 1: PBS in place of primary antibody.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab137040).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.