abcam

ab309691

Alexa Fluor® 488 Anti-SDHA antibody [EPR9043(B)]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 488
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR9043(B)
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Target Binding Affinity

Expected

Species	Human, Mouse, Rat

Dilution info	Use at an assay dependent concentration.
Notes	-

Antibody Labelling

Expected

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

Flow Cyt (Intra)

Expected

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

ICC/IF

Expected

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

IHC-P

Expected

Species	Human, 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 duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle, Store in the dark

Notes

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.

How are conjugated primary antibodies validated?
This conjugated primary antibody is released using a quantitative quality control method that evaluates binding affinity post-conjugation and efficiency of antibody labeling.
For suitable applications and species reactivity, please refer to the unconjugated version of this clone.

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.

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.

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