abcam

Product datasheet

Anti-SDHB antibody [EPR13042(B)] ab178423

KO VALIDATED Recombinant RabMAb

★★★★★ 1 Abreviews 14 References 7 Images

Overview

Product name	Anti-SDHB antibody [EPR13042(B)]
Description	Rabbit monoclonal [EPR13042(B)] to SDHB
Host species	Rabbit
Tested applications	**Suitable for:** Flow Cyt (Intra), WB, IP, IHC-P **Unsuitable for:** ICC/IF
Species reactivity	**Reacts with:** Human **Predicted to work with:** Mouse, Rat
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	Human fetal liver, A431, HepG2 and Jurkat lysates; HepG2 cells; Human heart and kidney tissues.
General notes	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 production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

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 long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.20 Preservative: 0.01% Sodium azide Constituents: 9% PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA, 50% Tissue culture supernatant
Purity	Protein A purified
Clonality	Monoclonal

Clone number	EPR13042(B)
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab178423 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
Flow Cyt (Intra)		1/10 - 1/100. **ab172730** - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.
WB	★★★★★ (1)	1/1000 - 1/10000. Predicted molecular weight: 32 kDa.
IP		1/10 - 1/100.
IHC-P		1/50 - 1/100. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

Application notes Is unsuitable for ICC/IF.

Target

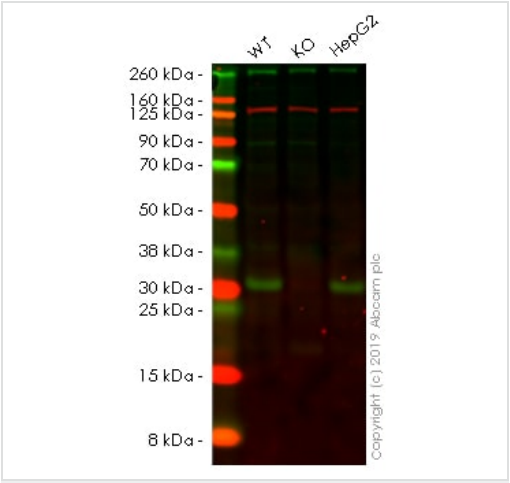
Function Iron-sulfur protein (IP) subunit of succinate dehydrogenase (SDH) that is involved in complex II of the mitochondrial electron transport chain and is responsible for transferring electrons from succinate to ubiquinone (coenzyme Q).

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

Involvement in disease Defects in SDHB are a cause of susceptibility to pheochromocytoma (PCC) [MIM:171300]. A catecholamine-producing tumor of chromaffin tissue of the adrenal medulla or sympathetic paraganglia. The cardinal symptom, reflecting the increased secretion of epinephrine and norepinephrine, is hypertension, which may be persistent or intermittent.
Defects in SDHB are the cause of hereditary paragangliomas type 4 (PGL4) [MIM:115310]; also known as familial non-chromaffin paragangliomas type 4. Paragangliomas refer to rare and mostly benign tumors that arise from any component of the neuroendocrine system. PGL4 is characterized by the development of mostly benign, highly vascular, slow growing tumors in the head and neck. In the head and neck region, the carotid body is the largest of all paraganglia and is also the most common site of the tumors.
Defects in SDHB are a cause of paraganglioma and gastric stromal sarcoma (PGGSS) [MIM:606864]; also called Carney-Stratakis syndrome. Gastrointestinal stromal tumors may be sporadic or inherited in an autosomal dominant manner, alone or as a component of a syndrome associated with other tumors, such as in the context of neurofibromatosis type 1 (NF1). Patients have both gastrointestinal stromal tumors and paragangliomas. Susceptibility to the tumors was inherited in an apparently autosomal dominant manner, with incomplete penetrance.
Defects in SDHB are a cause of Cowden-like syndrome (CWDLS) [MIM:612359]. Cowden-like syndrome is a cancer predisposition syndrome associated with elevated risk for tumors of the breast, thyroid, kidney and uterus.

Sequence similarities	Belongs to the succinate dehydrogenase/fumarate reductase iron-sulfur protein family. Contains 1 2Fe-2S ferredoxin-type domain. Contains 1 4Fe-4S ferredoxin-type domain.
Cellular localization	Mitochondrion inner membrane.

Images



Western blot - Anti-SDHB antibody [EPR13042(B)] (ab178423)

All lanes : Anti-SDHB antibody [EPR13042(B)] (ab178423) at 1/5000 dilution

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

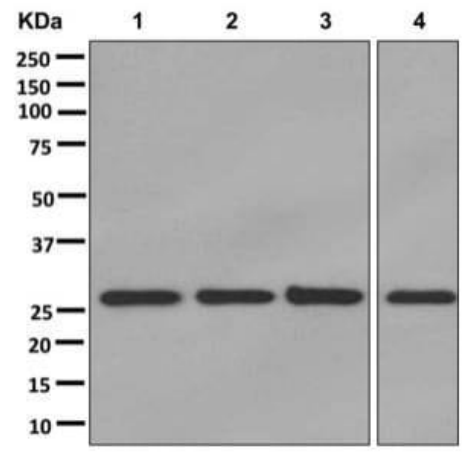
Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Predicted band size: 32 kDa

Lanes 1 - 3: Merged signal (red and green). Green - ab178423 observed at 32 kDa. Red - loading control, **ab130007**, observed at 130 kDa.

ab178423 was shown to recognize SDHB in wild-type HEK 293 cells as signal was lost at the expected MW in SDHB knockout cells. Additional cross-reactive bands were observed in the wild-type and knockout cells. Wild-type and SDHB knockout samples were subjected to SDS-PAGE. The membrane was blocked with 3% Milk. Ab178423 and **ab130007** (Mouse anti Vinculin loading control) were incubated overnight at 4°C at 1/5000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed **ab216773** and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed **ab216776** secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.



Western blot - Anti-SDHB antibody [EPR13042(B)] (ab178423)

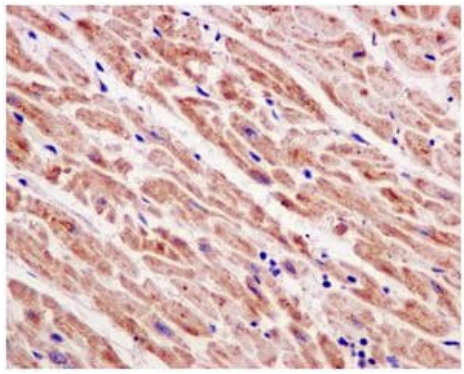
All lanes : Anti-SDHB antibody [EPR13042(B)] (ab178423) at 1/1000 dilution

Lane 1 : Human fetal liver tissue lysate
Lane 2 : HepG2 cell lysate
Lane 3 : A431 cell lysate
Lane 4 : Jurkat cell lysate

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat anti-rabbit HRP at 1/2000 dilution

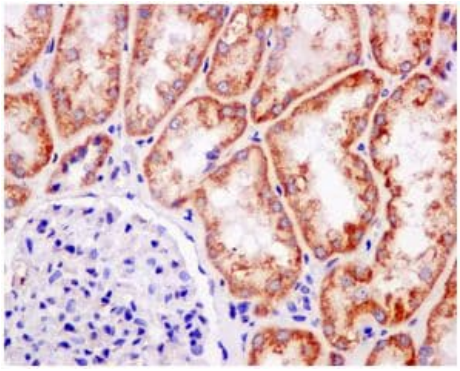
Predicted band size: 32 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SDHB antibody [EPR13042(B)] (ab178423)

Immunohistochemical analysis of paraffin-embedded Human heart tissue labeling SDHB with ab178423 at 1/50 dilution.

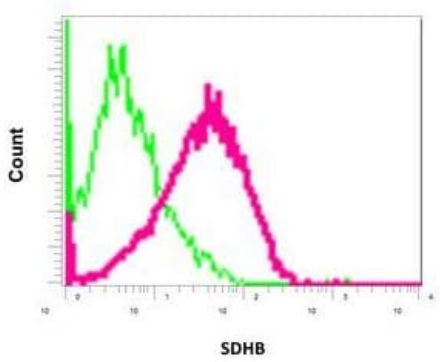
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SDHB antibody [EPR13042(B)] (ab178423)

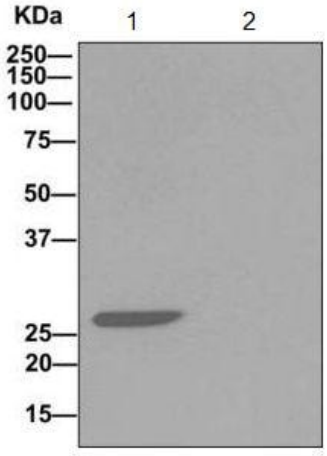
Immunohistochemical analysis of paraffin-embedded Human kidney tissue labeling SDHB with ab178423 at 1/50 dilution.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-SDHB antibody [EPR13042(B)] (ab178423)

Intracellular flow cytometric analysis of permeabilized HepG2 cells labeling SDHB with ab178423 at 1/10 dilution (red) compared with a rabbit IgG negative control (green).



Immunoprecipitation - Anti-SDHB antibody [EPR13042(B)] (ab178423)

Western blot analysis on immunoprecipitation pellet from (1) A431 cell lysate or (2) 1X PBS (negative control) immunoprecipitated using ab178423 at 1/10 dilution. Detection utilized HRP-conjugated anti-rabbit IgG which preferentially detects the non-reduced form of rabbit IgG.

Anti-SDHB antibody [EPR13042(B)] (ab178423)

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