Anti-SDHB antibody [21A11AE7] ab14714

★★★★★ 12 Abreviews | 75 References | 6 Images

Overview

Product name	Anti-SDHB antibody [21A11AE7]
Description	Mouse monoclonal [21A11AE7] to SDHB
Tested applications	Flow Cyt, IHC-Fr, ICC, IHC-P, WB, ICC/IF
Species reactivity	**Reacts with:** Mouse, Rat, Hamster, Cow, Human, Zebrafish
Immunogen	Purified Bovine mitochondrial Complex II, with traces of Complex III.
Positive control	Human heart mitochondria.
General notes	Product was previously marketed under the MitoSciences sub-brand. Alternative versions available: Anti-SDHB antibody (Alexa Fluor® 647) [21A11AE7] (ab197722) Anti-SDHB antibody (Alexa Fluor® 488) [21A11AE7] (ab197902) Anti-SDHB antibody (HRP) [21A11AE7] (ab197903)

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	21A11AE7
Isotype	IgG2a
Light chain type	kappa

Applications

Our Abpromise guarantee covers the use of **ab14714** in the following tested applications.

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

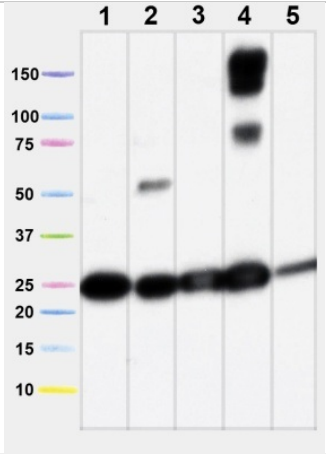
Application	Abreviews	Notes
Flow Cyt		Use 1µg for 10^6 cells. Ab170191-Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.
IHC-Fr	★★★★★	Use at an assay dependent concentration.
ICC	★★★★★	Use a concentration of 5 µg/ml. Requires heat-induced antigen retrieval where aldehydes are used as fixatives.
IHC-P	★★★★☆	Use at an assay dependent concentration. PubMed: 20236688
WB	★★★★★	Use a concentration of 5 µg/ml. Detects a band of approximately 28 kDa.
ICC/IF	★★★★★	Use a concentration of 1 µg/ml.

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.

Anti-SDHB antibody [21A11AE7] images



Western blot - SDHB antibody [21A11] (ab14714)

All lanes : Anti-SDHB antibody [21A11AE7] (ab14714)

Lane 1 : Isolated mitochondria from Human heart at 5 µg

Lane 2 : Isolated mitochondria from Bovine Heart at 1 µg

Lane 3 : Isolated mitochondria from Rat heart at 10 µg

Lane 4 : Isolated mitochondria from Mouse heart at 10 µg

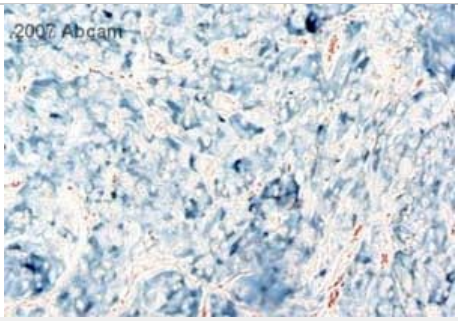
Lane 5 : Isolated mitochondria from HepG2 cells at 20 µg

Secondary

Goat anti-Mouse secondary

Observed band size : 28 kDa

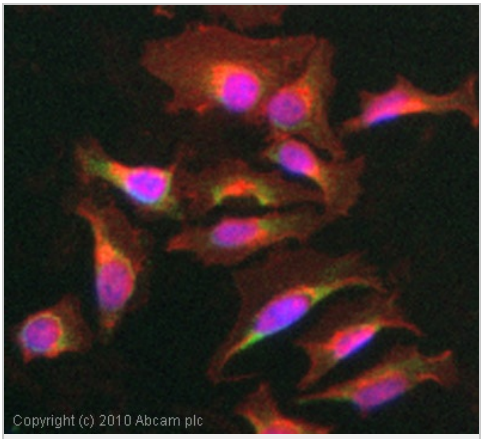
Additional bands at : 55 kDa. We are unsure as to the identity of these extra bands.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - SDHB antibody [21A11] (ab14714)

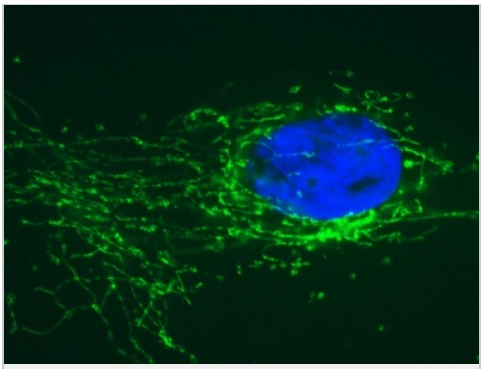
This image is courtesy of an anonymous Abreview

ab14714 at 5ug/ml staining human adrenal tumor tissue sections by IHC-P. The tissue was paraformaldehyde fixed and blocked with serum prior to incubation with the antibody for 1 hour. A biotinylated horse anti-mouse IgG antibody was used as the secondary.



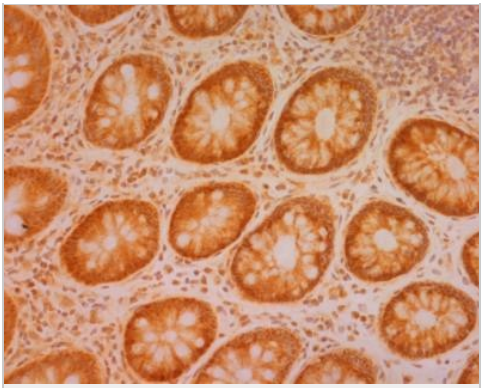
Immunocytochemistry/ Immunofluorescence - SDHB antibody [21A11] (ab14714)

ICC/IF image of ab14714 stained HeLa cells. The cells were 4% formaldehyde 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 (ab14714, 1µg/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) at a concentration of 1.43µM.



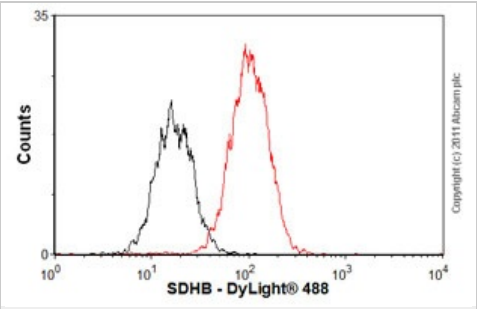
Immunocytochemistry/ Immunofluorescence - SDHB antibody [21A11] (ab14714)

Mitochondrial localization of complex II visualized by immunocytochemistry using anti-complex II subunit 30 kDa Ip mAb 21A11 (ab14714). Cells were fixed, permeabilized and then labeled with ab14714 followed by an Alexa Fluor® 488-conjugated-goat-anti-mouse IgG2a isotype specific secondary antibody.



Immunohistochemistry (Frozen sections) - SDHB antibody [21A11] (ab14714)

ab14714 staining SDHB in normal ageing human colon tissue by Immunohistochemistry (Frozen sections).



Flow Cytometry-SDHB antibody [21A11](ab14714)

Overlay histogram showing HEK293 cells stained with ab14714 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab14714, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG2a [ICIGG2A] (ab91361, 1µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.

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