

SDHA (B-1): sc-166909

BACKGROUND

In aerobic respiration reactions, succinate dehydrogenase (SDH) catalyzes the oxidation of succinate and ubiquinone to fumarate and ubiquinol. Four subunits comprise the SDH protein complex: a flavochrome subunit (SDHA), an iron-sulfur protein (SDHB), and two membrane-bound subunits (SDHC and SDHD) anchored to the inner mitochondrial membrane. Mutations to these subunits cause mitochondrial dysfunction, corresponding to several distinct disorders. Mutations in the membrane bound components may cause hereditary paraganglioma, while SDHA mutations are associated with juvenile encephalopathy as well as Leigh syndrome, a severe neurological disorder. Inactivating mutations in SDHB correlate with inherited, but not necessarily sporadic, cases of pheochromocytoma.

CHROMOSOMAL LOCATION

Genetic locus: SDHA (human) mapping to 5p15.33; Sdha (mouse) mapping to 13 C1.

SOURCE

SDHA (B-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 461-664 at the C-terminus of succinate dehydrogenase flavoprotein subunit of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SDHA (B-1) is available conjugated to agarose (sc-166909 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166909 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166909 PE), fluorescein (sc-166909 FITC), Alexa Fluor® 488 (sc-166909 AF488), Alexa Fluor® 546 (sc-166909 AF546), Alexa Fluor® 594 (sc-166909 AF594) or Alexa Fluor® 647 (sc-166909 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166909 AF680) or Alexa Fluor® 790 (sc-166909 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

SDHA (B-1) is recommended for detection of precursor and mature SDHA of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SDHA siRNA (h): sc-61834, SDHA siRNA (m): sc-61835, SDHA shRNA Plasmid (h): sc-61834-SH, SDHA shRNA Plasmid (m): sc-61835-SH, SDHA shRNA (h) Lentiviral Particles: sc-61834-V and SDHA shRNA (m) Lentiviral Particles: sc-61835-V.

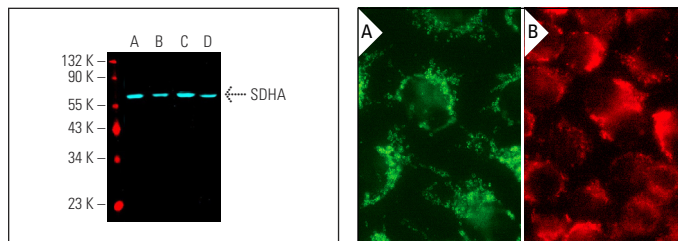
Molecular Weight of SDHA: 70 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HT-1080 whole cell lysate: sc-364183 or Hep G2 cell lysate: sc-2227.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



SDHA (B-1) Alexa Fluor® 647: sc-166909 AF647. Direct fluorescent western blot analysis of SDHA expression in Hep G2 (A), HT-1080 (B), SK-BR-3 (C) and HeLa (D) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker MW Tag-Alexa Fluor® 790: sc-516731.

SDHA (B-1): sc-166909. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A,B).

SELECT PRODUCT CITATIONS

- McPhee, J.S., et al. 2011. Variability in the magnitude of response of metabolic enzymes reveals patterns of co-ordinated expression following endurance training in women. *Exp. Physiol.* 96: 699-707.
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- Bambouskova, M., et al. 2018. Electrophilic properties of itaconate and derivatives regulate the I κ B ζ -ATF3 inflammatory axis. *Nature* 556: 501-504.
- Yao, C.H., et al. 2019. Mitochondrial fusion supports increased oxidative phosphorylation during cell proliferation. *Elife* 8: e41351.
- Stanková, P., et al. 2020. Adaptation of mitochondrial substrate flux in a mouse model of nonalcoholic fatty liver disease. *Int. J. Mol. Sci.* 21: 1101.
- Shakova, F.M., et al. 2021. Protective effects of PGC-1 α activators on ischemic stroke in a rat model of photochemically induced thrombosis. *Brain Sci.* 11: 325.
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- Yebra, M., et al. 2022. Establishment of patient-derived succinate dehydrogenase-deficient gastrointestinal stromal tumor models for predicting therapeutic response. *Clin. Cancer Res.* 28: 187-200.
- Germanova, E., et al. 2022. The role of mitochondrial enzymes, succinate-coupled signaling pathways and mitochondrial ultrastructure in the formation of urgent adaptation to acute hypoxia in the myocardium. *Int. J. Mol. Sci.* 23: 14248.

RESEARCH USE

For research use only, not for use in diagnostic procedures.