

SDHC (C-2): sc-515102



The Power to Question

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: SDHC (human) mapping to 1q23.3; Sdhc (mouse) mapping to 1 H3.

SOURCE

SDHC (C-2) is a mouse monoclonal antibody raised against amino acids 1-169 representing full length SDHC of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SDHC (C-2) is available conjugated to agarose (sc-515102 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515102 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515102 PE), fluorescein (sc-515102 FITC), Alexa Fluor® 488 (sc-515102 AF488), Alexa Fluor® 546 (sc-515102 AF546), Alexa Fluor® 594 (sc-515102 AF594) or Alexa Fluor® 647 (sc-515102 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515102 AF680) or Alexa Fluor® 790 (sc-515102 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

SDHC (C-2) is recommended for detection of SDHC 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 SDHC siRNA (h): sc-61510, SDHC siRNA (m): sc-61511, SDHC shRNA Plasmid (h): sc-61510-SH, SDHC shRNA Plasmid (m): sc-61511-SH, SDHC shRNA (h) Lentiviral Particles: sc-61510-V and SDHC shRNA (m) Lentiviral Particles: sc-61511-V.

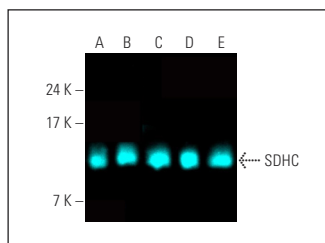
Molecular Weight of SDHC: 12 kDa.

Positive Controls: MIA PaCa-2 cell lysate: sc-2285, THP-1 cell lysate: sc-2238 or Hep G2 cell lysate: sc-2227.

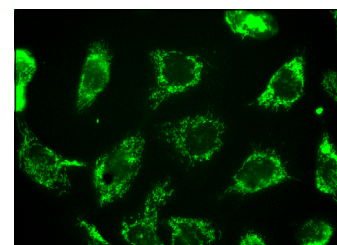
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



SDHC (C-2) Alexa Fluor® 647: sc-515102 AF647. Direct fluorescent western blot analysis of SDHC expression in HeLa (A), MCF7 (B), MIA PaCa-2 (C), THP-1 (D) and Hep G2 (E) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.



SDHC (C-2): sc-515102. Immunofluorescence staining of formalin-fixed A-431 cells showing mitochondrial localization.

SELECT PRODUCT CITATIONS

1. Kuramoto, K., et al. 2020. Verteporfin inhibits oxidative phosphorylation and induces cell death specifically in glioma stem cells. *FEBS J.* 287: 2023-2036.
2. Bajpai, R., et al. 2020. Electron transport chain activity is a predictor and target for venetoclax sensitivity in multiple myeloma. *Nat. Commun.* 11: 1228.
3. Lee, D., et al. 2020. Dietary schizophyllan reduces mitochondrial damage by activating SIRT3 in mice. *Arch. Pharm. Res.* 43: 449-461.
4. Wang, Z., et al. 2021. High throughput proteomic and metabolic profiling identified target correction of metabolic abnormalities as a novel therapeutic approach in head and neck paraganglioma. *Transl. Oncol.* 14: 101146.
5. Sabbir, M.G., et al. 2021. CAMKK2 regulates mitochondrial function by controlling succinate dehydrogenase expression, post-translational modification, megacomplex assembly, and activity in a cell-type-specific manner. *Cell Commun. Signal.* 19: 98.
6. Zhang, L., et al. 2023. Curcumin induces mitophagy by promoting mitochondrial succinate dehydrogenase activity and sensitizes human papillary thyroid carcinoma BCPAP cells to radioiodine treatment. *Toxicol. In Vitro* 93: 105669.

STORAGE

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

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