

SDHB (21A11): sc-59688

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 associate 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.

REFERENCES

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- Bourgeron, T., et al. 1995. Mutation of a nuclear succinate dehydrogenase gene results in mitochondrial respiratory chain deficiency. *Nat. Genet.* 11: 144-149.
- Astuti, D., et al. 2002. Gene mutations in the succinate dehydrogenase subunit SDHB cause susceptibility to familial pheochromocytoma and to familial paraganglioma. *Am. J. Hum. Genet.* 69: 49-54.
- Benn, D.E., et al. 2003. Novel succinate dehydrogenase subunit B (SDHB) mutations in familial pheochromocytomas and paragangliomas, but an absence of somatic SDHB mutations in sporadic pheochromocytomas. *Oncogene* 22: 1358-1364.
- Allibhai, Z., et al. 2004. Malignant pheochromocytoma associated with germline mutation of the SDHB gene. *J. Urol.* 172: 1409-1410.
- Morris, M.R., et al. 2004. Molecular genetic analysis of FH-1, FH, and SDHB candidate tumour suppressor genes in renal cell carcinoma. *J. Clin. Pathol.* 57: 706-711.

CHROMOSOMAL LOCATION

Genetic locus: SDHB (human) mapping to 1p36.13; Sdhb (mouse) mapping to 4 D3.

SOURCE

SDHB (21A11) is a mouse monoclonal antibody raised against purified mitochondrial complex II of bovine origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

SDHB (21A11) is recommended for detection of SDHB of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

SDHB (21A11) is also recommended for detection of SDHB in additional species, including bovine.

Suitable for use as control antibody for SDHB siRNA (h): sc-44088, SDHB siRNA (m): sc-44407, SDHB shRNA Plasmid (h): sc-44088-SH, SDHB shRNA Plasmid (m): sc-44407-SH, SDHB shRNA (h) Lentiviral Particles: sc-44088-V and SDHB shRNA (m) Lentiviral Particles: sc-44407-V.

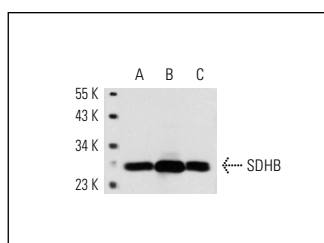
Molecular Weight of SDHB: 32 kDa.

Positive Controls: Mouse heart extract: sc-2254, mouse liver extract: sc-2256 or mouse brain extract: sc-2253.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



SDHB (21A11): sc-59688. Western blot analysis of SDHB expression in human heart (A) mouse heart (B) and mouse brain (C) tissue extracts.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.