

SDHA (2E3): sc-59687

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.

REFERENCES

- Spencer, M.E., et al. 1974. Proteins of the inner membrane of *Escherichia coli*: identification of succinate dehydrogenase by polyacryl-amide gel electrophoresis with SDH amber mutants. *J. Bacteriol.* 117: 947-953.
- Wolf, P., et al. 1975. Histochemical investigations on the presence of acetylcholinesterase and succinic dehydrogenase in fetal human spinal cord and brain stem at different stages of development. *Eur. Neurol.* 13: 31-46.
- Brown, M.D., et al. 1976. The effects of different patterns of muscle activity on capillary density, mechanical properties and structure of slow and fast rabbit muscles. *Pflugers Arch.* 361: 241-250.
- Shah, V.C., et al. 1976. Effect of low dose x-irradiation on the succinate dehydrogenase activity of guinea pig, rat and mouse tissues. *Strahlentherapie* 152: 83-91.
- Henriksson, J., et al. 1977. Time course of changes in human skeletal muscle succinate dehydrogenase and cytochrome oxidase activities and maximal oxygen uptake with physical activity and inactivity. *Acta Physiol. Scand.* 99: 91-97.

CHROMOSOMAL LOCATION

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

SOURCE

SDH (2E3) is a mouse monoclonal antibody raised against purified mitochondrial complex II of bovine origin.

PRODUCT

Each vial contains 100 µg IgG₁ 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.

RESEARCH USE

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

APPLICATIONS

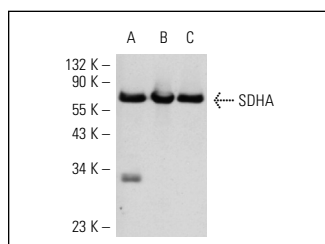
SDHA (2E3) is recommended for detection of SDHA of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

SDHA (2E3) is also recommended for detection of SDHA in additional species, including bovine.

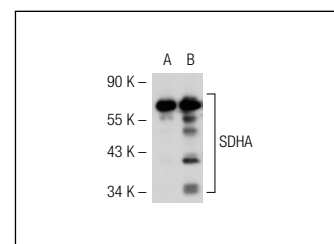
Suitable for use as control antibody for SDHA siRNA (h): sc-61834 and SDHA siRNA (m): sc-61835; and as shRNA Plasmid control antibody for SDHA shRNA Plasmid (h): sc-61834-SH and SDHA shRNA Plasmid (m): sc-61835-SH.

Molecular Weight of SDHA: 70 kDa.

DATA



SDHA (2E3): sc-59687. Western blot analysis of SDHA expression in human heart (A), mouse heart (B) and mouse brain (C) tissue extracts.



SDHA (2E3): sc-59687. Western blot analysis of SDHA expression in non-transfected: sc-117752 (A) and mouse SDHA transfected: sc-123405 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Costford, S.R., et al. 2008. Long-term high-fat feeding induces greater fat storage in mice lacking UCP3. *Am. J. Physiol. Endocrinol. Metab.* 295: E1018-E1024.
- Kim, N.K., et al. 2009. Proteome analysis of the *m. longissimus dorsi* between fattening stages in Hanwoo steer. *BMB Rep.* 42: 433-438.
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- Rettberg, J.R., et al. 2011. The effect of dietary soy isoflavones before and after ovariectomy on hippocampal protein markers of mitochondrial bioenergetics and antioxidant activity in female monkeys. *Brain Res.* 1379: 23-33.
- Tatarkova, Z., et al. 2011. Effect of long-term normobaric hyperoxia on oxidative stress in mitochondria of the guinea pig brain. *Neurochem. Res.* 36: 1475-1481.
- Ma, D., et al. 2012. A novel synthetic C-1 analogue of 7-deoxypancratistatin induces apoptosis in p53 positive and negative human colorectal cancer cells by targeting the mitochondria: enhancement of activity by tamoxifen. *Invest New Drugs* 30: 1012-1027.