

## SDHD (S-19): sc-49495

### BACKGROUND

Succinate dehydrogenase is a membrane-bound enzyme complex that localizes to the inner mitochondrial membrane and functions in both the citric acid cycle and the electron transport chain. It is found in several aerobic and anaerobic organisms, including *Escherichia coli*. Succinate dehydrogenase is a hetero-tetramer divided into three domains: SDHA, the catalytic domain; SDHB, the electron transfer subunit; and SDHC/SDHD, the dimeric membrane anchor that contains  $\beta$ -type heme. Mutations in the gene encoding for SDHD are associated with hereditary paraganglioma, possibly through a mechanism that causes a hypoxic response in the cell that leads to tumor formation. SDHD mutation-related tumors, which originate in the head and neck, are usually benign.

### REFERENCES

- Velasco, A., et al. 2005. Mutation analysis of the SDHD gene in four kindreds with familial paraganglioma: description of one novel germline mutation. *Diagn. Mol. Pathol.* 14: 109-114.
- Khatib, H., et al. 2005. The COPG2, DCN and SDHD genes are biallelically expressed in cattle. *Mamm. Genome* 16: 545-552.
- Liapis, C.D., et al. 2005. Carotid body paraganglioma and SDHD mutation in a Greek family. *Anticancer Res.* 25: 2449-2452.
- Braun, S., et al. 2005. Active succinate dehydrogenase (SDH) and lack of SDHD mutations in sporadic paragangliomas. *Anticancer Res.* 25: 2809-2814.
- Zhu, Z.M., et al. 2005. Cloning, mapping and association study with carcass traits of the porcine SDHD gene. *Anim. Genet.* 36: 191-195.
- Simi, L., et al. 2005. Phenotype variability of neural crest derived tumours in six Italian families segregating the same founder SDHD mutation Q109X. *J. Med. Genet.* 42: e52.

### CHROMOSOMAL LOCATION

Genetic locus: SDHD (human) mapping to 11p15.5; Sdhc (mouse) mapping to 9 A5.3.

### SOURCE

SDHD (S-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of SDHD of human origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-49495 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### STORAGE

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

### APPLICATIONS

SDHD (S-19) is recommended for detection of SDHD of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); may cross-react with Fbx15 in mouse.

SDHD (S-19) is also recommended for detection of SDHD in additional species, including bovine.

Suitable for use as control antibody for SDHD siRNA (h): sc-61512, SDHD siRNA (m): sc-61513, SDHD shRNA Plasmid (h): sc-61512-SH, SDHD shRNA Plasmid (m): sc-61513-SH, SDHD shRNA (h) Lentiviral Particles: sc-61512-V and SDHD shRNA (m) Lentiviral Particles: sc-61513-V.

Molecular Weight of SDHD: 15 kDa.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### SELECT PRODUCT CITATIONS

- Lemarie, A., et al. 2009. Mutations in the heme b-binding residue of SDHC inhibit assembly of respiratory chain complex II in mammalian cells. *Mitochondrion* 9: 254-260.

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **SDHD (3F4): sc-293275**, our highly recommended monoclonal alternative to SDHD (S-19).