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SDHD Antibody

Catalog # ASC11485

Product Information

Application	WB, IF, ICC, E
Primary Accession	O14521
Other Accession	NP_002993, 4506865
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	17043
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	SDHD antibody can be used for detection of SDHD by Western blot at 1 - 2 g/mL. Antibody can also be used for immunocytochemistry starting at 2.5 g/mL. For immunofluorescence start at 2.5 g/mL.

Additional Information

Gene ID	6392
Other Names	Succinate dehydrogenase [ubiquinone] cytochrome b small subunit, mitochondrial, CybS, CII-4, QPs3, Succinate dehydrogenase complex subunit D, Succinate-ubiquinone oxidoreductase cytochrome b small subunit, Succinate-ubiquinone reductase membrane anchor subunit, SDHD, SDH4
Target/Specificity	SDHD; At least three isoforms of THBS are known to exist; this antibody will detect all three.
Reconstitution & Storage	SDHD antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	SDHD Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SDHD
Synonyms	SDH4
Function	Membrane-anchoring subunit of succinate dehydrogenase (SDH) that is involved in complex II of the mitochondrial electron transport chain and is responsible for transferring electrons from succinate to ubiquinone (coenzyme Q) (PubMed:10482792, PubMed:9533030). SDH also oxidizes

	malate to the non-canonical enol form of oxaloacetate, enol- oxaloacetate (By similarity). Enol-oxaloacetate, which is a potent inhibitor of the succinate dehydrogenase activity, is further isomerized into keto-oxaloacetate (By similarity).
Cellular Location	Mitochondrion inner membrane; Multi-pass membrane protein

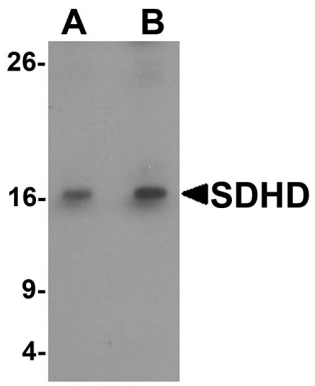
Background

SDHD Antibody: The mitochondrial succinate dehydrogenase complex subunit D (SDHD) is one of four proteins that make up the tricarboxylic cycle enzyme succinate dehydrogenase (SCH). Studies have shown that mutations in SDHD often leads to hereditary paragangliomas, usually benign tumors of the autonomic nervous system, suggesting that SDHD also plays a role as a tumor-suppressor gene. In one family with a nonsense mutation (R22X) in the SDHD gene, a loss of heterozygosity was found in the paragangliomas, and within these tumors the enzymatic activity of Complex II in the mitochondrial respiratory chain was completely abolished. Furthermore, high levels of angiogenic factors EPAS1 and VEGF was observed, which may stimulate tumor growth.

References

Baysal BE, Ferrell RE, Willett-Brozick JE, et al. Mutations in SDHD, a mitochondrial complex II gene, in hereditary paraganglioma. Science 2000; 287:848-51.
Saraste M. Oxidative phosphorylation at the fin de siecle. Science 1999; 283:1488-93.
Knudson AG. Genetics of human cancer. Annu. Rev. Genet. 1986; 20:231-51.
Gimenez-Roqueplo AP, Favier J, Rustin P, et al. The R22X mutation of the SDHD gene in hereditary paraganglioma abolishes the enzymatic activity of Complex II in the mitochondrial respiratory chain and activates the hypoxia pathway. Am. J. Hum. Genet. 2001; 69:1186-97.

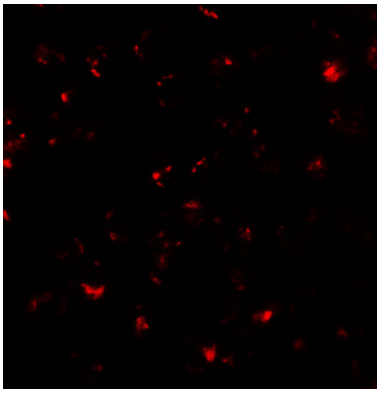
Images



Western blot analysis of SDHD in EL4 cell lysate with SDHD antibody at (A) 1 and (B) 2 µg/mL.

Immunocytochemistry of SDHD in EL4 cells with SDHD antibody at 2.5 µg/mL.

Immunofluorescence of SDHD in EL4 cells with SDHD



antibody at 20 µg/mL.