SANTA CRUZ BIOTECHNOLOGY, INC.

SDHAF2 siRNA (m): sc-108123

BACKGROUND

SDHAF2 (succinate dehydrogenase complex assembly factor 2), also known as SDH5 (succinate dehydrogenase subunit 5), is a 166 amino acid protein that belongs to the SDHAF2 family. SDHAF2 is required for insertion of FAD cofactor into SDHA, which is the catalytic subunit of succinate dehydrogenase (SDH). SDH is involved in complex II of the mitochondrial electron transport chain and is responsible for transferring electrons from succinate to ubiqui-none (coenzyme Q). In is unclear whether SDHAF2 participates in the chemistry of FAD attachment (enzymatic function) or acts as a chaperone that maintains SDHA in a conformation that is susceptible to autocatalytic FAD attachment. Defects in SDHAF2 are the cause of hereditary paragangliomas type 2 (PGL2), also known as familial non-chromaffin paragangliomas type 2. Paragangliomas refer to rare and mostly benign tumors that arise from any component of the neuroendocrine system. PGL2 is characterized by the development of non-chromaffin paragangliomas of the head and neck. The SDHAF2 gene is conserved in canine, bovine, mouse, rat, chicken, zebrafish, fruit fly, mosquito, *S. cerevisiae, K. lactis, E. gossypii, M. grisea* and *N. crassa,* maps to human chromosome 11q12.2.

REFERENCES

1. van Baars, F., et al. 1982. Genetic aspects of nonchromaffin paraganglioma. Hum. Genet. 60: 305-309.
2. Mariman, E.C., et al. 1995. Fine mapping of a putatively imprinted gene for familial non-chromaffin paragangliomas to chromosome 11q13.1: evidence for genetic heterogeneity. Hum. Genet. 95: 56-62.
3. Hao, H.X., et al. 2009. SDH5, a gene required for flavination of succinate dehydrogenase, is mutated in paraganglioma. Science 325: 1139-1142.
4. Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 613019. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Starker, L.F., et al. 2010. Expression and somatic mutations of SDHAF2 (SDH5), a novel endocrine tumor suppressor gene in parathyroid tumors of primary hyperparathyroidism. Endocrine 38: 397-401.

CHROMOSOMAL LOCATION

Genetic locus: Sdhaf2 (mouse) mapping to 19 A.

PRODUCT

SDHAF2 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SDHAF2 shRNA Plasmid (m): sc-108123-SH and SDHAF2 shRNA (m) Lentiviral Particles: sc-108123-V as alternate gene silencing products.

For independent verification of SDHAF2 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-108123A, sc-108123B and sc-108123C.

RESEARCH USE

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

SDHAF2 siRNA (m) is recommended for the inhibition of SDHAF2 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SDHAF2 gene expression knockdown using RT-PCR Primer: SDHAF2 (m)-PR: sc-108123-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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