SANTA CRUZ BIOTECHNOLOGY, INC.

Stra6 siRNA (h): sc-89991

BACKGROUND

Stimulated by retinoic acid 6 (Stra6) is a 667 amino acid, multi-pass cell membrane protein. Stra6 functions as a cell-surface receptor for the complex retinol-retinol binding protein (RBP/RBP4). Ultimately increasing cellular retinol uptake from the retinol-RBP complex, Stra6 removes retinol from RBP/RPB4 and transports it across the plasma membrane, where it is metabolized. Stra6 is broadly expressed, with four named isoforms that exist as a result of alternative splicing events. Mutations in the gene encoding Stra6 cause Matthew-Wood syndrome, also known as Spear syndrome. This syndrome is characterized by anophtalmia, mild facial dysmorphism and malformations of the heart, lung and diaphragm. The Stra6 gene maps to chromosome 15q24.1.

REFERENCES

1. Szeto, W., et al. 2001. Overexpression of the retinoic acid-responsive gene Stra6 in human cancers and its synergistic induction by Wnt-1 and retinoic acid. Cancer Res. 61: 4197-4205.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 601186. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Pasutto, F., et al. 2007. Mutations in Stra6 cause a broad spectrum of malformations including anophthalmia, congenital heart defects, diaphragmatic hernia, alveolar capillary dysplasia, lung hypoplasia, and mental retardation. Am. J. Hum. Genet. 80: 550-560.
4. Golzio, C., et al. 2007. Matthew-Wood syndrome is caused by truncating mutations in the retinol-binding protein receptor gene Stra6. Am. J. Hum. Genet. 80: 1179-1187.
5. Blaner, W.S. 2007. Stra6, a cell-surface receptor for retinol-binding protein: the plot thickens. Cell Metab. 5: 164-166.
6. Kawaguchi, R., et al. 2007. A membrane receptor for retinol binding protein mediates cellular uptake of vitamin A. Science 315: 820-825.
7. Kawaguchi, R., et al. 2008. Mapping the membrane topology and extracellular ligand binding domains of the retinol binding protein receptor. Biochemistry 47: 5387-5395.

CHROMOSOMAL LOCATION

Genetic locus: STRA6 (human) mapping to 15q24.1.

PRODUCT

Stra6 siRNA (h) 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 Stra6 shRNA Plasmid (h): sc-89991-SH and Stra6 shRNA (h) Lentiviral Particles: sc-89991-V as alternate gene silencing products.

For independent verification of Stra6 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-89991A, sc-89991B and sc-89991C.

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

Stra6 siRNA (h) is recommended for the inhibition of Stra6 expression in human 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 Stra6 gene expression knockdown using RT-PCR Primer: Stra6 (h)-PR: sc-89991-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Chen, C.H., et al. 2016. Electronegative low density lipoprotein induces renal apoptosis and fibrosis: Stra6 signaling involved. J. Lipid Res. 57: 1435-1446.

RESEARCH USE

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

PROTOCOLS

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