SANTA CRUZ BIOTECHNOLOGY, INC.

ARL11 siRNA (h): sc-105088

BACKGROUND

ADP-ribosylation factors (ARFs) are highly conserved guanine nucleotide binding proteins that enhance the ADP-ribosyltransferase activity of Cholera Toxin. ARF's are important in eukaryotic vesicular trafficking pathways and they play an essential role in the activation of phospholipase D (PC-PLD). ARL11 (ADP-ribosylation factor-like 11), also known as ARLTS1 (ADP-ribosylation factor-like tumor suppressor protein 1), is a 196 amino acid protein that belongs to a family of ARF-like proteins. Expressed in leukocytes and lung tissue, ARL11 is thought to function as a tumor suppressor that may play a role in the regulation of apoptosis. Defects in the gene encoding ARL11 are associated with an increased susceptibility to chronic lymphocytic leukemia (CLL), melanoma and colorectal cancer.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609351. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
2. Calin, G.A., et al. 2005. Familial cancer associated with a polymorphism in ARLTS1. N. Engl. J. Med. 352: 1667-1676.
3. Frank, B., et al. 2005. Familial cancer and ARLTS1. N. Engl. J. Med. 353: 313-314.
4. Frank, B., et al. 2006. Association of the ARLTS1 Cys148Arg variant with familial breast cancer risk. Int. J. Cancer 118: 2505-2508.
5. Frank, B., et al. 2006. ARLTS1 variants and melanoma risk. Int. J. Cancer 119: 1736-1737.
6. Sellick, G.S., et al. 2006. Familial cancer associated with a polymorphism in ARLTS1. N. Engl. J. Med. 354: 1204-1205.
7. Yendamuri, S., et al. 2007. Tumor suppressor functions of ARLTS1 in lung cancers. Cancer Res. 67: 7738-7745.
8. Castellví-Bel, S., et al. 2007. Association of the ARLTS1 ys148Arg variant with sporadic and familial colorectal cancer. Carcinogenesis 28: 1687-1691.
9. Siltanen, S., et al. 2008. ARLTS1 germline variants and the risk for breast, prostate, and colorectal cancer. Eur. J. Hum. Genet. 16: 983-991.

CHROMOSOMAL LOCATION

Genetic locus: ARL11 (human) mapping to 13q14.2.

PRODUCT

ARL11 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 ARL11 shRNA Plasmid (h): sc-105088-SH and ARL11 shRNA (h) Lentiviral Particles: sc-105088-V as alternate gene silencing products.

For independent verification of ARL11 (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-105088A, sc-105088B and sc-105088C.

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

ARL11 siRNA (h) is recommended for the inhibition of ARL11 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 ARL11 gene expression knockdown using RT-PCR Primer: ARL11 (h)-PR: sc-105088-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.