SANTA CRUZ BIOTECHNOLOGY, INC.

APOBEC3H siRNA (h): sc-72517

BACKGROUND

APOBEC3H (apolipoprotein B mRNA editing enzyme, catalytic polypeptide-like 3H), also known as ARP10, is a 200 amino acid protein that belongs to the cytidine and deoxycytidylate deaminase family. Highly expressed in ovary, testis, colon, cerebellum, skin and fetal liver, APOBEC3H uses zinc as a co-factor to catalyze the deamination of cytidine to produce uridine, a reaction that edits mRNA and increases protein diversity. Additionally, via its catalytic activity, APOBEC3H can inhibit retroviral replication and it is thought to play a role in intrinsic immune system defense mechanisms. Overexpression of APOBEC3H may be associated with the formation of tumors, suggesting a role for APOBEC3H in carcinogenesis. Two isoforms of APOBEC3H exist due to alternative splicing events.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610976. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
2. Wedekind, J.E., Dance, G.S., Sowden, M.P. and Smith, H.C. 2003. Messenger RNA editing in mammals: new members of the APOBEC family seeking roles in the family business. Trends Genet. 19: 207-216.
3. Oh Ainle, M., Kerns, J.A., Malik, H.S. and Emerman, M. 2006. Adaptive evolution and antiviral activity of the conserved mammalian cytidine deaminase APOBEC3H. J. Virol. 80: 3853-3862.
4. Dang, Y., Siew, L.M., Wang, X., Han, Y., Lampen, R. and Zheng, Y.H. 2008. Human cytidine deaminase APOBEC3H restricts HIV-1 replication. J. Biol. Chem. 283: 11606-11614.
5. Köck, J. and Blum, H.E. 2008. Hypermutation of hepatitis B virus genomes by APOBEC3G, APOBEC3C and APOBEC3H. J. Gen. Virol. 89: 1184-1191.

CHROMOSOMAL LOCATION

Genetic locus: APOBEC3H (human) mapping to 22q13.1.

PRODUCT

APOBEC3H 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 APOBEC3H shRNA Plasmid (h): sc-72517-SH and APOBEC3H shRNA (h) Lentiviral Particles: sc-72517-V as alternate gene silencing products.

For independent verification of APOBEC3H (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-72517A, sc-72517B and sc-72517C.

PROTOCOLS

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

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

APOBEC3H siRNA (h) is recommended for the inhibition of APOBEC3H 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 APOBEC3H gene expression knockdown using RT-PCR Primer: APOBEC3H (h)-PR: sc-72517-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.