

APOBEC4 siRNA (m): sc-105082

BACKGROUND

APOBEC (apolipoprotein B mRNA editing enzyme, catalytic) proteins inhibit retroviruses by deaminating cytosine residues of viral RNA and DNA. APOBEC4 (apolipoprotein B mRNA editing enzyme, catalytic polypeptide-like 4), also known as C1orf169, is a 367 amino acid protein that belongs to the AID/APOBEC family of polynucleotide deoxycytidine deaminases whose primary function is to catalyze the conversion of cytidine to uridine. Expressed predominantly in testis, APOBEC4 uses zinc as a cofactor to convert cytidine to uridine, an event that is important for RNA editing. The gene encoding APOBEC4 maps to human chromosome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome. Chromosome 1 houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome. Aberrations in chromosome 1 are found in a variety of cancers, including head and neck cancer, malignant melanoma and multiple myeloma.

REFERENCES

1. Rogozin, I.B., et al. 2005. APOBEC4, a new member of the AID/APOBEC family of polynucleotide (deoxy)cytidine deaminases predicted by computational analysis. *Cell Cycle* 4: 1281-1285.
2. Weise, A., et al. 2005. New insights into the evolution of chromosome 1. *Cytogenet. Genome Res.* 108: 217-222.
3. Conticello, S.G., et al. 2005. Evolution of the AID/APOBEC family of polynucleotide (deoxy)cytidine deaminases. *Mol. Biol. Evol.* 22: 367-377.
4. Marzin, Y., et al. 2006. Chromosome 1 abnormalities in multiple myeloma. *Anticancer Res.* 26: 953-959.
5. Navaratnam, N. and Sarwar, R. 2006. An overview of cytidine deaminases. *Int. J. Hematol.* 83: 195-200.

CHROMOSOMAL LOCATION

Genetic locus: Apobec4 (mouse) mapping to 1 G3.

PRODUCT

APOBEC4 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see APOBEC4 shRNA Plasmid (m): sc-105082-SH and APOBEC4 shRNA (m) Lentiviral Particles: sc-105082-V as alternate gene silencing products.

For independent verification of APOBEC4 (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-105082A, sc-105082B and sc-105082C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

APOBEC4 siRNA (m) is recommended for the inhibition of APOBEC4 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 μ M in 66 μ l. 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 APOBEC4 gene expression knockdown using RT-PCR Primer: APOBEC4 (m)-PR: sc-105082-PR (20 μ l). 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.