SANTA CRUZ BIOTECHNOLOGY, INC.

AZI1 siRNA (h): sc-94024

BACKGROUND

AZI1, also known as 5-azacytidine-induced protein 1, is a 1,083 amino acid protein that may play a role in spermatogenesis. AZI1 is most highly expressed in spinal cord, followed by testis, ovary, amygdala, cerebellum and thalamus. Low expression is present in other adult and fetal tissues and specific adult brain regions. AZI1 gene transcription begins in pachytene spermatocytes and expression of the gene is induced in cultivated fibroblasts on treatment with 5-azacytidine, which is known to lead to the demethylation of genomic DNA. The AZI1 gene is conserved in canine, bovine, mouse, rat, chicken, and zebrafish, and exists as two alternatively spliced isoforms. AZI1 contains one IQ domain, and the gene that encodes it maps to human chromosome 17q25.3. Chromosome 17 makes up over 2.5% of the human genome with about 81 million bases encoding over 1,200 genes. Alexander disease, Birt-Hogg-Dube syndrome and Canavan disease are also associated with chromosome 17.

REFERENCES

1. Aoto, H., et al. 1997. Genomic organization of the mouse AZ1 gene that encodes the protein localized to preacrosomes of spermatids. Genomics 40: 138-141.
2. Strausberg, R.L., et al. 2002. Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences. Proc. Natl. Acad. Sci. USA 99: 16899-16903.
3. Ota, T., et al. 2004. Complete sequencing and characterization of 21,243 full-length human cDNAs. Nat. Genet. 36: 40-45.
4. Al-Dirbashi, O.Y., et al. 2007. Quantification of N-acetylaspartic acid in urine by LC-MS/MS for the diagnosis of Canavan disease. J. Inherit. Metab. Dis. 30: 612.
5. Murakami, N., et al. 2008. Novel deletion mutation in GFAP gene in an infantile form of Alexander disease. Pediatr. Neurol. 38: 50-52.
6. Ivanov, I.P., et al. 2010. A profusion of upstream open reading frame mechanisms in polyamine-responsive translational regulation. Nucleic Acids Res. 38: 353-359.

CHROMOSOMAL LOCATION

Genetic locus: CEP131 (human) mapping to 17q25.3.

PRODUCT

AZI1 siRNA (h) is a pool of 2 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 AZI1 shRNA Plasmid (h): sc-94024-SH and AZI1 shRNA (h) Lentiviral Particles: sc-94024-V as alternate gene silencing products.

For independent verification of AZI1 (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-94024A and sc-94024B.

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

AZI1 siRNA (h) is recommended for the inhibition of AZI1 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 AZI1 gene expression knockdown using RT-PCR Primer: AZI1 (h)-PR: sc-94024-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. Kyun, M.L., et al. 2020. Wnt3a stimulation promotes primary ciliogenesis through β-catenin phosphorylation-induced reorganization of centriolar satellites. Cell Rep. 30: 1447-1462.e5.
2. Wang, J., et al. 2020. CEP131 knockdown inhibits cell proliferation by inhibiting the ERK and AKT signaling pathways in non-small cell lung cancer. Oncol. Lett. 19: 3145-3152.

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.