SANTA CRUZ BIOTECHNOLOGY, INC.

ALDH16A1 siRNA (h): sc-97458

BACKGROUND

ALDH16A1 (aldehyde dehydrogenase 16 family, member A1) is an 802 amino acid protein belonging to the aldehyde dehydrogenase superfamily. Family members react with aldehyde substrates and enlist nicotinamide adenine dinucleotide phosphate (NADP) as a cofactor. ALDH16A1 participates in oxidoreductase activity, protein binding and interacts with Maspardin, a protein linked to Mast syndrome. Encoded by a gene that maps to human chromosome 19q13.33, ALDH16A1 exists as two alternatively spliced isoforms and contains seventeen exons. ALDH16A1 is conserved in chimpanzee, canine, bovine, mouse, rat and zebrafish; however, a cysteine active site and glutamate residues are not conserved.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: ALDH16A1 (human) mapping to 19q13.33.

PRODUCT

ALDH16A1 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 ALDH16A1 shRNA Plasmid (h): sc-97458-SH and ALDH16A1 shRNA (h) Lentiviral Particles: sc-97458-V as alternate gene silencing products.

For independent verification of ALDH16A1 (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-97458A and sc-97458B.

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

ALDH16A1 siRNA (h) is recommended for the inhibition of ALDH16A1 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.

GENE EXPRESSION MONITORING

ALDH16A1 (E-1): sc-398657 is recommended as a control antibody for monitoring of ALDH16A1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ALDH16A1 gene expression knockdown using RT-PCR Primer: ALDH16A1 (h)-PR: sc-97458-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.