SANTA CRUZ BIOTECHNOLOGY, INC.

AKR1CL2 siRNA (h): sc-90638

BACKGROUND

Members of the aldo/keto reductase (AKR) family are soluble NADPH-dependent oxidoreductases that play important roles in the metabolism of drugs, carcinogens and reactive aldehydes and may also act as bile acid-binding proteins. AKR1CL2 (aldo-keto reductase family 1 member C-like protein 2), also known as 1,5-anhydro-D-fructose reductase, AF reductase, LoopADR or HTSP, is a 320 amino acid member of the AKR protein family. Localized to the cytoplasm, AKR1CL2 catalyzes the NADPH-dependent reduction of 1,5-anhydro-D-fructose (AF) to 1,5-anhydro-D-glucitol, as well as the reduction of various quinones and aldehydes. AKR1CL2 is specific to testis and is expressed as five isoforms produced by alternative splicing events.

REFERENCES

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2. Penning, T.M., Burczynski, M.E., Jez, J.M., Hung, C.F., Lin, H.K., Ma, H., Moore, M., Palackal, N. and Ratnam, K. 2000. Human 3α-hydroxysteroid dehydrogenase isoforms (AKR1C1-AKR1C4) of the aldo-keto reductase superfamily: functional plasticity and tissue distribution reveals roles in the inactivation and formation of male and female sex hormones. Biochem. J. 351: 67-77.
3. Nishinaka, T., Azuma, Y., Ushijima, S., Miki, T. and Yabe-Nishimura, C. 2003. Human testis specific protein: a new member of aldo-keto reductase superfamily. Chem. Biol. Interact. 143-144: 299-305.
4. Vergnes, L., Phan, J., Stolz, A. and Reue, K. 2003. A cluster of eight hydroxysteroid dehydrogenase genes belonging to the aldo-keto reductase supergene family on mouse chromosome 13. J. Lipid Res. 44: 503-511.

CHROMOSOMAL LOCATION

Genetic locus: AKR1E2 (human) mapping to 10p15.1.

PRODUCT

AKR1CL2 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 AKR1CL2 shRNA Plasmid (h): sc-90638-SH and AKR1CL2 shRNA (h) Lentiviral Particles: sc-90638-V as alternate gene silencing products.

For independent verification of AKR1CL2 (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-90638A, sc-90638B and sc-90638C.

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

AKR1CL2 siRNA (h) is recommended for the inhibition of AKR1CL2 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 AKR1CL2 gene expression knockdown using RT-PCR Primer: AKR1CL2 (h)-PR: sc-90638-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.