

AKR1C6 siRNA (m): sc-140992

BACKGROUND

Members of the 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. There are 12 human ARK proteins and 15 rodent ARK proteins, all of which functions as oxidoreductases that may regulate a variety of reactions throughout the cell. AKR1C6, also known as Estradiol 17 β -dehydrogenase 5, is a 323 amino acid mouse ARK protein. AKR1C6 acts as an oxidoreductase for estrogens, androgens and xenobiotic substrates. Expressed predominantly in the liver, AKR1C6 has α -stereospecificity in the hydrogen transfer between cofactors and substrates.

REFERENCES

1. Deyashiki, Y., Ohshima, K., Nakanishi, M., Sato, K., Matsuura, K. and Hara, A. 1995. Molecular cloning and characterization of mouse estradiol 17 β -dehydrogenase (A-specific), a member of the aldoketoreductase family. *J. Biol. Chem.* 270: 10461-10467.
2. Rheault, P., Charbonneau, A. and Luu-The, V. 1999. Structure and activity of the murine type 5 17 β -hydroxysteroid dehydrogenase gene. *Biochim. Biophys. Acta* 1447: 17-24.
3. 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 3 α -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.
4. Napoli, J.L. 2001. 17 β -hydroxysteroid dehydrogenase type 9 and other short-chain dehydrogenases/reductases that catalyze retinoid, 17 β - and 3 α -hydroxysteroid metabolism. *Mol. Cell. Endocrinol.* 171: 103-109.

CHROMOSOMAL LOCATION

Genetic locus: *Akr1c6* (mouse) mapping to 13 A1.

PRODUCT

AKR1C6 siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see AKR1C6 shRNA Plasmid (m): sc-140992-SH and AKR1C6 shRNA (m) Lentiviral Particles: sc-140992-V as alternate gene silencing products.

For independent verification of AKR1C6 (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-140992A and sc-140992B.

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.

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

AKR1C6 siRNA (m) is recommended for the inhibition of AKR1C6 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.

GENE EXPRESSION MONITORING

DD (C-12): sc-166297 is recommended as a control antibody for monitoring of AKR1C6 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 AKR1C6 gene expression knockdown using RT-PCR Primer: AKR1C6 (m)-PR: sc-140992-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.