SANTA CRUZ BIOTECHNOLOGY, INC.

AKR1C14 siRNA (m): sc-140988

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 15 rodent ARK proteins, all of which functions as oxidoreductases that may regulate a variety of reactions throughout the cell. AKR1C14 (aldo-keto reductase family 1, member C14) is a 323 amino acid mouse protein that is encoded by a gene which is localized to a region on mouse chromosome 13 that houses a cluster of eight hydroxysteroid dehydrogenases.

REFERENCES

1. Penning, T.M., et al. 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.
2. Tanaka, T.S., et al. 2000. Genome-wide expression profiling of mid-gestation placenta and embryo using a 15,000 mouse developmental cDNA microarray. Proc. Natl. Acad. Sci. USA 97: 9127-9132.
3. Napoli, J.L. 2001. 17β-hydroxysteroid dehydrogenase type 9 and other short-chain dehydrogenases/reductases that catalyze retinoid, 17β- and 3α-hydroxysteroid metabolism. Mol. Cell. Endocrinol. 171: 103-109.
4. Vergnes, L., et al. 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.
5. Matsumoto, K., et al. 2006. Enzymatic properties of a member (AKR1C20) of the aldo-keto reductase family. Biol. Pharm. Bull. 29: 539-542.
6. Bellemare, V., et al. 2006. Isolation and characterization of a cDNA encoding mouse 3α-hydroxysteroid dehydrogenase: an androgen-inactivating enzyme selectively expressed in female tissues. J. Steroid Biochem. Mol. Biol. 98: 18-24.

CHROMOSOMAL LOCATION

Genetic locus: Akr1c14 (mouse) mapping to 13 A1.

PRODUCT

AKR1C14 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see AKR1C14 shRNA Plasmid (m): sc-140988-SH and AKR1C14 shRNA (m) Lentiviral Particles: sc-140988-V as alternate gene silencing products.

For independent verification of AKR1C14 (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-140988A, sc-140988B and sc-140988C.

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

AKR1C14 siRNA (m) is recommended for the inhibition of AKR1C14 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 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 AKR1C14 gene expression knockdown using RT-PCR Primer: AKR1C14 (m)-PR: sc-140988-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.