SANTA CRUZ BIOTECHNOLOGY, INC.

AKR1B8 siRNA (m): sc-140985

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The Power to Question

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. 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. AKR1B8 (aldo-keto reductase family 1, member B8), also known as Fgfrp (fibroblast growth factor-regulated protein) or FR-1, is a 316 amino acid protein belonging to the AKR family. Localizing to the cytoplasm, AKR1B8 is induced by FGF-1. The gene encoding AKR1B8 maps to mouse chromosome 6 B1.

REFERENCES

1. Endo, S., Matsunaga, T., Mamiya, H., Hara, A., Kitade, Y., Tajima, K. and El-Kabbani, O. 2009. Characterization of a rat NADPH-dependent aldo-keto reductase (AKR1B13) induced by oxidative stress. Chem. Biol. Interact. 178: 151-157.
2. Joshi, A., Rajput, S., Wang, C., Ma, J. and Cao, D. 2010. Murine aldo-keto reductase family 1 subfamily B: identification of AKR1B8 as an ortholog of human AKR1B10. Biol. Chem. 391: 1371-1378.
3. Fujimori, K., Ueno, T., Nagata, N., Kashiwagi, K., Aritake, K., Amano, F. and Urade, Y. 2010. Suppression of adipocyte differentiation by aldo-keto reductase 1B3 acting as prostaglandin F2α synthase. J. Biol. Chem. 285: 8880-8886.
4. Salabei, J.K., Li, X.P., Petrash, J.M., Bhatnagar, A. and Barski, O.A. 2011. Functional expression of novel human and murine AKR1B genes. Chem. Biol. Interact. 191: 177-184.
5. Ruiz, F.X., Moro, A., Gallego, O., Ardèvol, A., Rovira, C., Petrash, J.M., Pares, X. and Farres, J. 2011. Human and rodent aldo-keto reductases from the AKR1B subfamily and their specificity with retinaldehyde. Chem. Biol. Interact. 191: 199-205.
6. Pastel, E., Pointud, J.C., Volat, F., Martinez, A. and Lefrançois-Martinez, A.M. 2012. Aldo-keto reductases 1B in endocrinology and metabolism. Front. Pharmacol. 3: 148.

CHROMOSOMAL LOCATION

Genetic locus: Akr1b8 (mouse) mapping to 6 B1.

PRODUCT

AKR1B8 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see AKR1B8 shRNA Plasmid (m): sc-140985-SH and AKR1B8 shRNA (m) Lentiviral Particles: sc-140985-V as alternate gene silencing products.

For independent verification of AKR1B8 (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-140985A and sc-140985B.

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

AKR1B8 siRNA (m) is recommended for the inhibition of AKR1B8 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 AKR1B8 gene expression knockdown using RT-PCR Primer: AKR1B8 (m)-PR: sc-140985-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.