

ZADH1 siRNA (m): sc-155427

BACKGROUND

ZADH1 (zinc binding alcohol dehydrogenase, domain containing 1), also known as PTGR2 (prostaglandin reductase 2), PGR2 or 15-oxoprostaglandin 13-reductase, is a 351 amino acid cytoplasmic protein that belongs to the NADP-dependent oxidoreductase L4BD family. Functioning as a 15-oxoprostaglandin 13-reductase, ZADH1 catalyzes the conversion of 15-keto-prostaglandin E2 to 15-keto-13,14-dihydro-prostaglandin E2 in a NADPH-dependent manner. ZADH1 overexpression has been found to repress PPAR γ transcriptional activity and adipocyte differentiation. Widely expressed, ZADH1 is found at highest levels in heart, kidney, liver, pancreas and prostate, with moderate levels found in brain, small intestine, lung, testis and skeletal muscle. ZADH1 exists as a monomer, utilizes NADPH as a cofactor, and undergoes alternative splicing to produce two isoforms that are encoded by a gene located on human chromosome 14q24.3.

REFERENCES

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2. Suzuki, Y., Yamashita, R., Shiota, M., Sakakibara, Y., Mizushima-Sugano, J., Chiba, J., Nakai, K. and Sugano, S. 2004. Sequence comparison of human and mouse genes reveals a homologous block structure in the promoter regions. *Genome Res.* 14: 1711-1718.
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6. Wu, Y.H., Ko, T.P., Guo, R.T., Hu, S.M., Chuang, L.M. and Wang, A.H. 2008. Structural basis for catalytic and inhibitory mechanisms of human prostaglandin reductase PTGR2. *Structure* 16: 1714-1723.

CHROMOSOMAL LOCATION

Genetic locus: Ptgr2 (mouse) mapping to 12 D1.

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.

PRODUCT

ZADH1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ZADH1 shRNA Plasmid (m): sc-155427-SH and ZADH1 shRNA (m) Lentiviral Particles: sc-155427-V as alternate gene silencing products.

For independent verification of ZADH1 (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-155427A, sc-155427B and sc-155427C.

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

ZADH1 siRNA (m) is recommended for the inhibition of ZADH1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ZADH1 gene expression knockdown using RT-PCR Primer: ZADH1 (m)-PR: sc-155427-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.