SANTA CRUZ BIOTECHNOLOGY, INC.

ADX Reductase siRNA (m): sc-61907

BACKGROUND

Adrenodoxin Reductase (ADX Reductase) is a mitochondrial flavoprotein that receives electrons from NADPH and thereby initiates the electron-transport chain serving mitochondrial cytochromes P450. ADX Reductase participates in cholesterol side chain cleavage in all steroidogenic tissues, steroid 11-β hydroxylation in the adrenal cortex, 25-OH-vitamin D_3-24 hydroxylation in the kidney and sterol C-27 hydroxylation in the liver. Alternate splicing of ADX Reductase produces two isoforms. Human ADX Reductase maps to human chromosome 17q25.1.

REFERENCES

1. Solish, S.B., et al. 1988. Human Adrenodoxin Reductase: two mRNAs encoded by a single gene on chromosome 17cen-q25 are expressed in steroidogenic tissues. Proc. Natl. Acad. Sci. USA 85: 7104-7108.
2. Sparkes, R.S., et al. 1991. Regional mapping of genes encoding human steroidogenic enzymes: P450scc to 15q23-q24; Adrenodoxin to 11q22; Adrenodoxin Reductase to 17q24-q25; and P450c17 to 10q24-q25. DNA Cell. Biol. 10: 359-365.
3. Ziegler, G.A., et al. 1999. The structure of Adrenodoxin Reductase of mitochondrial P450 systems: electron transfer for steroid biosynthesis. J. Mol. Biol. 289: 981-990.
4. Hara, T., et al. 2000. Evidence for the cluster model of mitochondrial steroid hydroxylase system derived from dissociation constants of the complex between Adrenodoxin Reductase and Adrenodoxin. Biochem. Biophys. Res. Commun. 276: 210-215.

CHROMOSOMAL LOCATION

Genetic locus: Fdxr (mouse) mapping to 11 E2.

PRODUCT

ADX Reductase 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 ADX Reductase shRNA Plasmid (m): sc-61907-SH and ADX Reductase shRNA (m) Lentiviral Particles: sc-61907-V as alternate gene silencing products.

For independent verification of ADX Reductase (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-61907A, sc-61907B and sc-61907C.

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

ADX Reductase siRNA (m) is recommended for the inhibition of ADX Reductase 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.

GENE EXPRESSION MONITORING

ADX Reductase (E-2): sc-374436 is recommended as a control antibody for monitoring of ADX Reductase 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 ADX Reductase gene expression knockdown using RT-PCR Primer: ADX Reductase (m)-PR: sc-61907-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.