SANTA CRUZ BIOTECHNOLOGY, INC.

SRA siRNA (m): sc-38462

BACKGROUND

Steroid receptor RNA activator (SRA) selectively mediates transactivation of steroid hormone receptors. Specifically, SRA exists as both an RNA transcript that forms a complex with steroid receptor coactivator-1 and as a stably expressed protein. There are six RNA motifs in SRA that are important for coactivation. SRA is ubiquitously expressed in normal tissues with higher levels of expression in liver and skeletal muscle. SRA is expressed at a low level in brain. SRA is expressed at higher levels in breast tumor than in normal tissue. Overexpression of SRA stimulates ERα transcriptional activity. In cells transfected with antisense oligodeoxynucleotides to SRA, ERα expression is reduced in a dose-dependent fashion. SMRT/HDAC1 associated repressor protein (SHARP) binds to SRA and inhibits SRA-potentiated steroid receptor transciption.

REFERENCES

1. Lanz, R.B., et al. 1999. A steroid receptor coactivator, SRA, functions as an RNA and is present in an SRC-1 complex. Cell 97: 17-27.
2. Murphy, L.C., et al. 2000. Altered expression of estrogen receptor coregulators during human breast tumorigenesis. Cancer Res. 60: 6266-6271.
3. Watanabe, M., et al. 2001. A subfamily of RNA-binding DEAD-box proteins acts as an estrogen receptor α coactivator through the N-terminal activation domain (AF-1) with an RNA coactivator, SRA. EMBO J. 20: 1341-1352.
4. Shi, Y., et al. 2001. Sharp, an inducible cofactor that integrates nuclear receptor repression and activation. Genes Dev. 15: 1140-1151.
5. Lanz, R.B., et al. 2002. Distinct RNA motifs are important for co-activation of steroid hormone receptors by steroid receptor RNA activator (SRA). Proc. Natl. Acad. Sci. USA 99: 16081-16086.
6. Cavarretta, I.T., et al. 2002. Reduction of coactivator expression by antisense oligodeoxynucleotides inhibits ERα transcriptional activity and MCF7 proliferation. Mol. Endocrinol. 16: 253-270.
7. Emberley, E., et al. 2003. Identification of new human coding steroid receptor RNA activator isoforms. Biochem. Biophys. Res. Commun. 301:509-515.

CHROMOSOMAL LOCATION

Genetic locus: Sra1 (mouse) mapping to 18 B2.

PRODUCT

SRA 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 SRA shRNA Plasmid (m): sc-38462-SH and SRA shRNA (m) Lentiviral Particles: sc-38462-V as alternate gene silencing products.

For independent verification of SRA (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-38462A, sc-38462B and sc-38462C.

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

SRA siRNA (m) is recommended for the inhibition of SRA 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

SRA (E-5): sc-393240 is recommended as a control antibody for monitoring of SRA 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 SRA gene expression knockdown using RT-PCR Primer: SRA (m)-PR: sc-38462-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Ding, Z., et al. 2018. PCSK9 regulates expression of scavenger receptors and ox-LDL uptake in macrophages. Cardiovasc. Res. 114: 1145-1153.

RESEARCH USE

For research use only, not for use in diagnostic procedures.