SANTA CRUZ BIOTECHNOLOGY, INC.

SLIRP siRNA (h): sc-92406

BACKGROUND

SLIRP (SRA stem-loop-interacting RNA-binding protein), also known as DC50 or C14orf156, is a 109 amino acid mitochondrial protein that localizes to the nucleus and is ubiquitously expressed, with highest levels in heart, liver, skeletal muscle and testis. Containing a single RRM (RNA recognition motif) domain, SLIRP acts as a nuclear receptor corepressor and binds the STR7 loop of SRA RNA. In addition to repressing the SRA-mediated nuclear receptor coactivation, SLIRP is also able to repress glucocorticoid (GR), androgen (AR), thyroid (TR) and VDR-mediated transactivation. It is suggested that SLIRP may regulate mitochondrial function and augment the effect of Tamoxifen, a drug that acts as an antagonist of the estrogen receptor and inhibits receptor activity. The gene encoding SLIRP is located on human chromsome 14, which houses over 700 genes and comprises nearly 3.5% of the human genome.

REFERENCES

1. Klinge, C.M., Jernigan, S.C., Mattingly, K.A., Risinger, K.E. and Zhang, J. 2004. Estrogen response element-dependent regulation of transcriptional activation of estrogen receptors α and β by coactivators and corepressors. J. Mol. Endocrinol. 33: 387-410.
2. Hatchell, E.C., Colley, S.M., Beveridge, D.J., Epis, M.R., Stuart, L.M., Giles, K.M., Redfern, A.D., Miles, L.E., Barker, A., MacDonald, L.M., Arthur, P.G., Lui, J.C., Golding, J.L., McCulloch, R.K., Metcalf, C.B., Wilce, J.A., et al. 2006. SLIRP, a small SRA binding protein, is a nuclear receptor corepressor. Mol. Cell 22: 657-668.
3. Shamovsky, I. and Nudler, E. 2006. Gene control by large noncoding RNAs. Sci. STKE 2006: pe40.
4. Colley, S.M., Iyer, K.R. and Leedman, P.J. 2008. The RNA coregulator SRA, its binding proteins and nuclear receptor signaling activity. IUBMB Life 60: 159-164.
5. Colley, S.M. and Leedman, P.J. 2009. SRA and its binding partners: an expanding role for RNA-binding coregulators in nuclear receptor-mediated gene regulation. Crit. Rev. Biochem. Mol. Biol. 44: 25-33.
6. Ponce-Balbuena, D., López-Izquierdo, A., Ferrer, T., Rodríguez-Menchaca, A.A., Arechiga-Figueroa, I.A. and Sánchez-Chapula, J.A. 2009. Tamoxifen inhibits inward rectifier K^+ 2.x family of inward rectifier channels by interfering with phosphatidylinositol 4,5-bisphosphate-channel interactions. J. Pharmacol. Exp. Ther. 331: 563-573.
7. Chung, S.H. and Lambert, P.F. 2009. Prevention and treatment of cervical cancer in mice using estrogen receptor antagonists. Proc. Natl. Acad. Sci. USA 106: 19467-19472.

CHROMOSOMAL LOCATION

Genetic locus: SLIRP (human) mapping to 14q24.3.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

PRODUCT

SLIRP siRNA (h) 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 SLIRP shRNA Plasmid (h): sc-92406-SH and SLIRP shRNA (h) Lentiviral Particles: sc-92406-V as alternate gene silencing products.

For independent verification of SLIRP (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-92406A and sc-92406B.

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

SLIRP siRNA (h) is recommended for the inhibition of SLIRP expression in human 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.

RESEARCH USE

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