SANTA CRUZ BIOTECHNOLOGY, INC.

SART-3 siRNA (h): sc-95715

BACKGROUND

SART-3 (squamous cell carcinoma antigen recognized by T cells 3), also known as P100, p110, DSAP1 or TIP110, is a 963 amino acid protein that localizes to nuclear speckles, as well as to the cytoplasm, and contains two RRM domains and eight HAT repeats. Expressed ubiquitously, SART-3 functions as a component of the 7SK snRNP complex and is involved in regulating the transactivation of TAT, possibly playing a role in the pathogenesis of squamous cell carcinomas (SCC), adenocarcinomas, melanomas and leukemias. SART-3 exists as multiple alternatively spliced isoforms which are subject to DNA damage-dependent phosphorylation, probably by ATM or ATR. Defects in the gene encoding SART-3 are the cause of disseminated superficial actinic porokeratosis type 1 (DSAP1), an autosomal dominant disorder that is characterized by the formation of keratotic lesions surrounded by a slightly raised keratotic border.

REFERENCES

1. Harada, K., et al. 2001. Binding of a SART-3 tumor-rejection antigen to a pre-mRNA splicing factor RNPS1: a possible regulation of splicing by a complex formation. Int. J. Cancer 93: 623-628.
2. Bell, M., et al. 2002. p110, a novel human U6 snRNP protein and U4/U6 snRNP recycling factor. EMBO J. 21: 2724-2735.
3. Stan, K.D., et al. 2003. Targeting of U4/U6 small nuclear RNP assembly factor SART-3/p110 to Cajal bodies. J. Cell Biol. 160: 505-516.
4. Liu, Y., et al. 2004. TIP110, the human immunodeficiency virus type 1 (HIV-1) TAT-interacting protein of 110 kDa as a negative regulator of androgen receptor (AR) transcriptional activation. J. Biol. Chem. 279: 21766-21773.
5. Damianov, A., et al. 2004. Recycling of the U12-type spliceosome requires p110, a component of the U6atac snRNP. Mol. Cell. Biol. 24: 1700-1708.
6. Medenbach, J., et al. 2004. Human U4/U6 snRNP recycling factor p110: mutational analysis reveals the function of the tetratricopeptide repeat domain in recycling. Mol. Cell. Biol. 24: 7392-7401.
7. Licht, K., et al. 2008. 3'-cyclic phosphorylation of U6 snRNA leads to recruitment of recycling factor p110 through LSm proteins. RNA 14: 1532-1538.

CHROMOSOMAL LOCATION

Genetic locus: SART3 (human) mapping to 12q23.3.

PRODUCT

SART-3 siRNA (h) 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 SART-3 shRNA Plasmid (h): sc-95715-SH and SART-3 shRNA (h) Lentiviral Particles: sc-95715-V as alternate gene silencing products.

For independent verification of SART-3 (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-95715A, sc-95715B and sc-95715C.

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

SART-3 siRNA (h) is recommended for the inhibition of SART-3 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SART-3 gene expression knockdown using RT-PCR Primer: SART-3 (h)-PR: sc-95715-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.