SANTA CRUZ BIOTECHNOLOGY, INC.

SHQ1 siRNA (h): sc-78189

BACKGROUND

SHQ1 is a 577 amino acid protein that belongs to the SHQ1 family and contains one CS domain. The first 445 amino acids of yeast and human SHQ1 share 26% identity. SHQ1 directly interacts with Dyskerin alone, but not in the context of the core trimer composed of Dyskerin, NOP10 and NHP2, nor in the presence of NAF1. SHQ1 does not however interact with NAF1. SHQ1 assists in the assembly of H/ACA-box ribonucleoproteins that function in the processing of ribosomal RNAs, modification of spliceosomal small nuclear RNAs, and stabilization of telomerase. SHQ1, FOXP1 and RYBP have been suggested to be potential cooperative tumor suppressors for prostate cancer. The SHQ1 gene is conserved in chimpanzee, canine, bovine, mouse, rat, chicken, *C. elegans*, *S. pombe*, *S. cerevisiae*, *K. lactis* and *E. gossypii*, and maps to human chromosome 3p13. Chromosome 3 is made up of about 214 million bases encoding over 1,100 genes.

REFERENCES

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2. Braga, E.A., et al. 2003. New tumor suppressor genes in hot spots of human chromosome 3: new methods of identification]. Mol. Biol. 37: 194-211.
3. Yue, Y., et al. 2005. Genomic structure and paralogous regions of the inversion breakpoint occurring between human chromosome 3p12.3 and orangutan chromosome 2. Cytogenet. Genome Res. 108: 98-105.
4. Muzny, D.M., et al. 2006. The DNA sequence, annotation and analysis of human chromosome 3. Nature 440: 1194-1198.
5. Singh, M., et al. 2009. Structure and functional studies of the CS domain of the essential H/ACA ribonucleoparticle assembly protein SHQ1. J. Biol. Chem. 284: 1906-1916.
6. Grozdanov, P.N., et al. 2009. SHQ1 is required prior to NAF1 for assembly of H/ACA small nucleolar and telomerase RNPs. RNA 15: 1188-1197.
7. Taylor, B.S., et al. 2010. Integrative genomic profiling of human prostate cancer. Cancer Cell 18: 11-22.

CHROMOSOMAL LOCATION

Genetic locus: SHQ1 (human) mapping to 3p13.

PRODUCT

SHQ1 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 SHQ1 shRNA Plasmid (h): sc-78189-SH and SHQ1 shRNA (h) Lentiviral Particles: sc-78189-V as alternate gene silencing products.

For independent verification of SHQ1 (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-78189A, sc-78189B and sc-78189C.

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

SHQ1 siRNA (h) is recommended for the inhibition of SHQ1 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 SHQ1 gene expression knockdown using RT-PCR Primer: SHQ1 (h)-PR: sc-78189-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.