SANTA CRUZ BIOTECHNOLOGY, INC.

SCAPER siRNA (h): sc-90292

BACKGROUND

SCAPER (S-phase cyclin A-associated protein in the ER) is a 1,399 amino acid protein that contains a C_2H_2-type zinc finger, a putative transmembrane domain, an ER retrieval signal at the C terminus, four coiled-coil domains, six potential RXL motifs that might confer binding to cyclins and six consensus Cdk phosphorylation sites. SCAPER interacts with, and is phosphorylated *in vitro* by, the cyclin A/Cdk2 complex at multiple phases of the cell cycle, including S and G_2/M. It has been suggested that SCAPER represents a novel cyclin A/Cdk2 regulatory protein that transiently maintains cyclin A in the cytoplasm. The SCAPER protein is predominantly located in the endoplasmic reticulum, with only a small portion detected in the nucleus. Widely expressed, SCAPER demonstrates highest expression in testis. Existing as two alternatively spliced isoforms, the SCAPER gene is conserved in chimpanzee, canine, mouse, rat, chicken and zebrafish, and maps to human chromosome 15q24.3.

REFERENCES

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2. Tsang, W.Y., Wang, L., Chen, Z., Sánchez, I. and Dynlacht, B.D. 2007. SCAPER, a novel cyclin A-interacting protein that regulates cell cycle progression. J. Cell Biol. 178: 621-633.
3. Laura, V., Emanuela, B., Corrado, A., Giuseppe, N. and Annalisa, B. 2007. Detection of an unstable non-coding tandem repeat in the ZNF291 gene. Mol. Cell. Probes 21: 405-407.
4. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611611. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Tsang, W.Y. and Dynlacht, B.D. 2008. Double identity of SCAPER: a substrate and regulator of cyclin A/Cdk2. Cell Cycle 7: 702-705.
6. Roetzer, K.M., Schwarzbraun, T., Obenauf, A.C., Hauser, E. and Speicher, M.R. 2010. Further evidence for the pathogenicity of 15q24 microduplications distal to the minimal critical regions. Am. J. Med. Genet. A 152A: 3173-3178.

CHROMOSOMAL LOCATION

Genetic locus: SCAPER (human) mapping to 15q24.3.

PRODUCT

SCAPER 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 SCAPER shRNA Plasmid (h): sc-90292-SH and SCAPER shRNA (h) Lentiviral Particles: sc-90292-V as alternate gene silencing products.

For independent verification of SCAPER (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-90292A, sc-90292B and sc-90292C.

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

SCAPER siRNA (h) is recommended for the inhibition of SCAPER 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 SCAPER gene expression knockdown using RT-PCR Primer: SCAPER (h)-PR: sc-90292-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.