SANTA CRUZ BIOTECHNOLOGY, INC.

SRCAP siRNA (h): sc-93293

BACKGROUND

SRCAP (Snf2-related CREBBP activator protein), also known as EAF1, SWR1, or DOMO1, is a 3,230 amino acid protein that belongs to a family of helicases and contains one HSA domain, one helicase C-terminal domain, one helicase ATP-binding domain and three A.T hook DNA-binding domains. Localized to the nucleus, SRCAP functions as a catalytic component of the SRCAP complex, a multi-protein structure that mediates the ATP-dependent exchange of histone dimers for nucleosomal histones, an event that regulates the transcription of select genes via chromatin remodeling. Additionally, the SRCAP complex acts as a coactivator for steroid receptor-mediated transcription, Notch-mediated transcription and CREB-mediated transcription. SRCAP is expressed as multiple alternatively spliced isoforms and is subject to DNA damage-dependent phosphorylation by Atm or ATR.

REFERENCES

1. Johnston, H., et al. 1999. Identification of a novel SNF2/SWI2 protein family member, SRCAP, which interacts with CREB-binding protein. J. Biol. Chem. 274: 16370-16376.
2. Xu, X., et al. 2001. Adenovirus DNA binding protein interacts with the SNF2-related CBP activator protein (SrCap) and inhibits SrCap-mediated transcription. J. Virol. 75: 10033-10040.
3. Monroy, M.A., et al. 2003. SNF2-related CBP activator protein (SRCAP) functions as a coactivator of steroid receptor-mediated transcription through synergistic interactions with CARM-1 and GRIP-1. Mol. Endocrinol. 17: 2519-2528.
4. Eissenberg, J.C., et al. 2005. Human SRCAP and *Drosophila melanogaster* DOM are homologs that function in the notch signaling pathway. Mol. Cell. Biol. 25: 6559-6569.
5. Ruhl, D.D., et al. 2006. Purification of a human SRCAP complex that remodels chromatin by incorporating the histone variant H2A.Z into nucleosomes. Biochemistry 45: 5671-5677.
6. Cai, Y., et al. 2006. Purification and assay of the human INO80 and SRCAP chromatin remodeling complexes. Methods 40: 312-317.

CHROMOSOMAL LOCATION

Genetic locus: SRCAP (human) mapping to 16p11.2.

PRODUCT

SRCAP 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 SRCAP shRNA Plasmid (h): sc-93293-SH and SRCAP shRNA (h) Lentiviral Particles: sc-93293-V as alternate gene silencing products.

For independent verification of SRCAP (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-93293A and sc-93293B.

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

SRCAP siRNA (h) is recommended for the inhibition of SRCAP 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 SRCAP gene expression knockdown using RT-PCR Primer: SRCAP (h)-PR: sc-93293-PR (20 µl, 585 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Messina, G., et al. 2021. The ATPase SRCAP is associated with the mitotic apparatus, uncovering novel molecular aspects of Floating-Harbor syndrome. BMC Biol. 19: 184.

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.