SANTA CRUZ BIOTECHNOLOGY, INC.

SLUG siRNA (h): sc-38393

BACKGROUND

The SNAIL family of developmental regulatory proteins is a group of widely conserved zinc-finger proteins that regulate transcription and include the mammalian proteins SLUG, SNAI 1 (the human homolog of *Drosophila* SNAIL) and Smuc. SNAI 1 and SLUG are expressed in placenta and in adult heart, liver and skeletal muscle. SNAI 1, and the corresponding mouse homolog Sna, each contain three classic zinc-fingers and one atypical zinc-finger, while SLUG contains five zinc-finger regions and a transcriptional repression domain at the amino-terminus, which enables SLUG to act as a negative regulator of gene expression. SLUG is implicated in the generation and migration of neural crest cells in human embryos and also contributes to limb bud development. In addition, SLUG also constitutes a cellular anti-apoptotic transcription factor that effectively prevents apoptosis in murine pro-B cells deprived of IL-3. The SNAIL-related gene from murine skeletal muscle cells, Smuc, is highly expressed in skeletal muscle and thymus and can, likewise, repress gene transcription. Smuc preferentially associates with CAGGTG and CACCTG E-box motifs (CANNTG) on DNA and involves the five putative DNA-binding zinc-finger domains at the C-terminal region of Smuc.

CHROMOSOMAL LOCATION

Genetic locus: SNAI2 (human) mapping to 8q11.21.

PRODUCT

SLUG 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 SLUG shRNA Plasmid (h): sc-38393-SH and SLUG shRNA (h) Lentiviral Particles: sc-38393-V as alternate gene silencing products.

For independent verification of SLUG (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-38393A, sc-38393B and sc-38393C.

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

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

PROTOCOLS

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

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.

GENE EXPRESSION MONITORING

SLUG (A-7): sc-166476 is recommended as a control antibody for monitoring of SLUG gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SLUG gene expression knockdown using RT-PCR Primer: SLUG (h)-PR: sc-38393-PR (20 µl, 596 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Zhang, K., et al. 2011. RNA interference targeting SLUG increases cholangiocarcinoma cell sensitivity to cisplatin via upregulating PUMA. Int. J. Mol. Sci. 12: 385-400.
2. Chen, L., et al. 2012. SFRP2 and slug contribute to cellular resistance to apoptosis in hypertrophic scars. PLoS ONE 7: e50229.
3. Yang, C., et al. 2013. FOXM1 promotes the epithelial to mesenchymal transition by stimulating the transcription of Slug in human breast cancer. Cancer Lett. 340: 104-112.
4. Weng, W., et al. 2014. Metastasis-associated protein 1 promotes tumor invasion by downregulation of E-cadherin. Int. J. Oncol. 44: 812-818.
5. Li, G., et al. 2015. SLUG signaling is up-regulated by CCL21/CCR7 [corrected] to induce EMT in human chondrosarcoma. Med. Oncol. 32: 478.
6. Xu, Q., et al. 2017. EGF induces epithelial-mesenchymal transition and cancer stem-like cell properties in human oral cancer cells via promoting Warburg effect. Oncotarget 8: 9557-9571.
7. Jo, D.H., et al. 2017. L1 increases adhesion-mediated proliferation and chemoresistance of retinoblastoma. Oncotarget 8: 15441-15452.
8. Rahn, S., et al. 2018. Diabetes as risk factor for pancreatic cancer: hyperglycemia promotes epithelial-mesenchymal-transition and stem cell properties in pancreatic ductal epithelial cells. Cancer Lett. 415: 129-150.

RESEARCH USE

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