

GKLF siRNA (h): sc-35480

BACKGROUND

The Krüppel-type zinc-finger transcription factors comprise a conserved family of DNA binding proteins that are important in developmental regulation. The Krüppel zinc-finger transcription factor was initially identified in *Drosophila* as a segmentation gene. Krüppel-like factors that have been characterized in mammals include EKLF, LKLF and GKLF. EKLF is expressed principally in erythroid tissues, and LKLF expression is limited to the lung. GKLF is found predominantly in gut and has been shown to be expressed during growth arrest.

CHROMOSOMAL LOCATION

Genetic locus: KLF4 (human) mapping to 9q31.2.

PRODUCT

GKLF 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 GKLF shRNA Plasmid (h): sc-35480-SH and GKLF shRNA (h) Lentiviral Particles: sc-35480-V as alternate gene silencing products.

For independent verification of GKLF (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-35480A, sc-35480B and sc-35480C.

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

GKLF siRNA (h) is recommended for the inhibition of GKLF 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.

RESEARCH USE

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

GENE EXPRESSION MONITORING

GKLF (B-8): sc-393462 is recommended as a control antibody for monitoring of GKLF 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 GKLF gene expression knockdown using RT-PCR Primer: GKLF (h)-PR: sc-35480-PR (20 µl, 446 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Cekanova, M., et al. 2010. MCC-555-induced NAG-1 expression is mediated in part by KLF4. *Eur. J. Pharmacol.* 637: 30-37.
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6. Ménoret, A., et al. 2014. Differential proteomics identifies PDIA3 as a novel chemoprevention target in human colon cancer cells. *Mol. Carcinog.* 53: E11-E22.
7. Wang, B., et al. 2015. Krüppel-like factor 4 induces apoptosis and inhibits tumorigenic progression in SK-BR-3 breast cancer cells. *FEBS Open Bio* 5: 147-154.
8. Guo, K., et al. 2017. The novel KLF4/MSI2 signaling pathway regulates growth and metastasis of pancreatic cancer. *Clin. Cancer Res.* 23: 687-696.
9. Li, Z., et al. 2018. SIRT6 drives epithelial-to-mesenchymal transition and metastasis in non-small cell lung cancer via snail-dependent transrepression of KLF4. *J. Exp. Clin. Cancer Res.* 37: 323.
10. Shao, L., et al. 2019. *Helicobacter pylori*-induced miR-135b-5p promotes cisplatin resistance in gastric cancer. *FASEB J.* 33: 264-274.
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PROTOCOLS

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