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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

KLF3 siRNA (h): sc-44963

BACKGROUND

Krüppel-like factors (KLFs) comprise a family of evolutionarily conserved zinc finger-containing transcription factors with diverse regulatory functions in cell growth, proliferation, differentiation and embryogenesis. Individual members of the Sp1-like/KLF family can function either as activators or repressors, depending on which promoter they bind and the coregulators with which they interact. KLF6, also designated Zf9 or CPBP (core promoter-binding protein), and KLF3 are Krüppel-like zinc finger-containing transcription factors. KLF6 is rapidly induced during hepatic stellate cell activation and transactivates a reporter gene driven by the collagen I promoter, suggesting KLF6 plays a role in the response to tissue injury. KLF3 may play a role in hematopoiesis.

REFERENCES

- van Vliet, J., et al. 2000. Human Krüppel-like factor 8: a CACCC-box binding protein that associates with CtBP and represses transcription. *Nucleic Acids Res.* 28: 1955-1962.
- Kaczynski, J., et al. 2003. Sp1- and Krüppel-like transcription factors. *Genome Biol.* 4: 206.
- Turner, J., et al. 2003. The LIM protein FHL3 binds basic Krüppel-like factor/Krüppel-like factor 3 and its co-repressor C-terminal-binding protein 2. *J. Biol. Chem.* 278: 12786-12795.
- Yang, X.O., et al. 2003. Regulation of T cell receptor D β 1 promoter by KLF5 through reiterated GC-rich motifs. *Blood* 101: 4492-4499.
- Chiambaretta, F., et al. 2004. Cell and tissue specific expression of human Krüppel-like transcription factors in human ocular surface. *Mol. Vis.* 10: 901-909.

CHROMOSOMAL LOCATION

Genetic locus: KLF3 (human) mapping to 4p14.

PRODUCT

KLF3 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see KLF3 shRNA Plasmid (h): sc-44963-SH and KLF3 shRNA (h) Lentiviral Particles: sc-44963-V as alternate gene silencing products.

For independent verification of KLF3 (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-44963A, sc-44963B and sc-44963C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

KLF3 siRNA (h) is recommended for the inhibition of KLF3 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 μ M in 66 μ l. 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

KLF3 (B-12): sc-514500 is recommended as a control antibody for monitoring of KLF3 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor KLF3 gene expression knockdown using RT-PCR Primer: KLF3 (h)-PR: sc-44963-PR (20 μ l). 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.