



LRF siRNA (h): sc-44574

BACKGROUND

LRF, formerly identified as Pokemon, is a poxvirus zinc finger (POZ) domain-containing transcription factor that influences cell differentiation. LRF (for leukemia/lymphoma related factor) is also known as zinc finger and BTB domain containing 7A, ZBTB7, TIP21, FBI1 and FBI-1. POZ-domain transcription factors contain a POZ or BTB type protein-protein interaction domain at their N-terminus and Krüppel-type zinc fingers at their C-terminus. LRF is inducible during both murine and human preadipocyte differentiation and may contribute to adipogenesis through influencing the switch from cellular proliferation to terminal differentiation. LRF can associate with active chromatin and stimulate TAT-activated HIV-1 transcription through interactions with the HIV-1 long terminal repeat. 3T3L1 cells stably overexpressing LRF show a reduction in DNA synthesis and in expression of cyclin A, cyclin-dependent kinase 2 and p107.

REFERENCES

1. Davies, J.M., et al. 1999. Novel BTB/POZ domain zinc-finger protein, LRF, is a potential target of the LAZ-3/Bcl-6 oncogene. *Oncogene* 18: 365-375.
2. Kukita, A., et al. 1999. Osteoclast-derived zinc finger (OCZF) protein with POZ domain, a possible transcriptional repressor, is involved in osteoclastogenesis. *Blood* 94: 1987-1997.
3. Pendergrast, P.S., et al. 2002. FBI-1 can stimulate HIV-1 TAT activity and is targeted to a novel subnuclear domain that includes the TAT-P-TEFb-containing nuclear speckles. *Mol. Biol. Cell* 13: 915-929.
4. Lee, D.K., et al. 2002. POZ domain transcription factor, FBI-1, represses transcription of ADH5/FDH by interacting with the zinc finger and interfering with DNA binding activity of Sp1. *J. Biol. Chem.* 277: 26761-26768.
5. Pessler, F., et al. 2003. Flexible DNA binding of the BTB/POZ-domain protein FBI-1. *J. Biol. Chem.* 278: 29327-29335.
6. Laudes, M., et al. 2004. Role of the POZ zinc finger transcription factor FBI-1 in human and murine adipogenesis. *J. Biol. Chem.* 279: 11711-11718.
7. Maeda, T., et al. 2005. Role of the proto-oncogene Pokemon in cellular transformation and ARF repression. *Nature* 433: 278-285.

CHROMOSOMAL LOCATION

Genetic locus: ZBTB7A (human) mapping to 19p13.3.

PRODUCT

LRF 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 LRF shRNA Plasmid (h): sc-44574-SH and LRF shRNA (h) Lentiviral Particles: sc-44574-V as alternate gene silencing products.

For independent verification of LRF (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-44574A, sc-44574B and sc-44574C.

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

LRF siRNA (h) is recommended for the inhibition of LRF 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

LRF (13E9): sc-33683 is recommended as a control antibody for monitoring of LRF 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 LRF gene expression knockdown using RT-PCR Primer: LRF (h)-PR: sc-44574-PR (20 μ l, 449 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Yeh, L.Y., et al. 2020. The miR-372-ZBTB7A oncogenic axis suppresses TRAIL-R2 associated drug sensitivity in oral carcinoma. *Front. Oncol.* 10: 47.

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.