SANTA CRUZ BIOTECHNOLOGY, INC.

LZIP siRNA (m): sc-37703

BACKGROUND

HCF-1 is a cellular protein required by VP16, a viral tegument, to activate the herpes simplex virus (HSV) immediate-early genes. In addition to playing an essential role in cell proliferation, HCF-1 also functions as a coactivator for the basic leucine zipper transcription factor LZIP (also designated Luman or CREB3). Both LZIP and VP16 contain the binding motif (D/E) HXY (S/A), which is recognized by an amino terminal β-propeller domain in HCF-1. LZIP, a member of the ATF/CREB family, is a type II membrane-associated glycoprotein that is ubiquitously expressed in adult and fetal tissues. LZIP associates with the endoplasmic reticulum, where it sequesters most of the cellular HCF-1. Like other CREB/ATF family members, LZIP activates transcription from genes containing cyclic AMP response elements (CREs). LZIP activity is repressed by the inhibitory interaction of HCLP-1.

REFERENCES

1. Lu, R., et al. 1997. Luman, a new member of the CREB/ATF family, binds to herpes simplex virus VP16-associated host cellular factor. Mol. Cell. Biol. 17: 5117-5126.
2. Lu, R., et al. 1998. The herpes virus transactivator VP16 mimics a human basic domain leucine zipper protein, luman, in its interaction with HCF. J. Virol. 72: 6291-6297.
3. Zhou, H.J., et al. 2001. Inhibition of LZIP-mediated transcription through direct interaction with a novel host cell factor-like protein. J. Biol. Chem. 276: 28933-28938.
4. Raggo, C., et al. 2002. Luman, the cellular counterpart of herpes simplex virus VP16, is processed by regulated intramembrane proteolysis. Mol. Cell. Biol. 22: 5639-5649.

CHROMOSOMAL LOCATION

Genetic locus: Creb3 (mouse) mapping to 4 B1.

PRODUCT

LZIP siRNA (m) 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 LZIP shRNA Plasmid (m): sc-37703-SH and LZIP shRNA (m) Lentiviral Particles: sc-37703-V as alternate gene silencing products.

For independent verification of LZIP (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-37703A, sc-37703B and sc-37703C.

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

LZIP siRNA (m) is recommended for the inhibition of LZIP expression in mouse 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.

GENE EXPRESSION MONITORING

LZIP (H-7): sc-515434 is recommended as a control antibody for monitoring of LZIP 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 LZIP gene expression knockdown using RT-PCR Primer: LZIP (m)-PR: sc-37703-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Déry, M.A. and LeBlanc, A.C. 2017. Luman contributes to brefeldin A-induced prion protein gene expression by interacting with the ERSE26 element. Sci. Rep. 7: 42285.

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.