SANTA CRUZ BIOTECHNOLOGY, INC.

ELYS siRNA (h): sc-77266

BACKGROUND

ELYS (AT-hook-containing transcription factor 1) is a protein of the nuclear matrix that contains one AT hook DNA-binding domain. ELYS is a dual nucleoporin/kinetochore protein required for nuclear pore assembly and proper cell division. Nuclear pores span the nuclear envelope and act as gated aqueous channels to regulate the transport of macromolecules between the nucleus and cytoplasm, from individual proteins and RNAs to entire viral genomes. The AT-hook near the C-terminus of likely indicates ELYS can function as a transcription factor which may play a specific role in hematopoietic tissues. It also may play a role in early embryo development, as ELYS is critical for the survival of inner cells of the blastocyst.

REFERENCES

1. Kimura, N., et al. 2002. Identification of a novel transcription factor, ELYS, expressed predominantly in mouse foetal haematopoietic tissues. Genes Cells 7: 435-446.
2. Okita, K., et al. 2003. Genomic organization and characterization of the mouse ELYS gene. Biochem. Biophys. Res. Commun. 305: 327-332.
3. Okita, K., et al. 2004. Targeted disruption of the mouse ELYS gene results in embryonic death at peri-implantation development. Genes Cells 9: 1083-1091.
4. Rasala, B.A., et al. 2006. ELYS is a dual nucleoporin/kinetochore protein required for nuclear pore assembly and proper cell division. Proc. Natl. Acad. Sci. USA 103: 17801-17806.
5. Franz, C., et al. 2007. MEL-28/ELYS is required for the recruitment of nucleoporins to chromatin and postmitotic nuclear pore complex assembly. EMBO Rep. 8: 165-172.
6. Gillespie, P.J., et al. 2007. ELYS/MEL-28 chromatin association coordinates nuclear pore complex assembly and replication licensing. Curr. Biol. 17: 1657-1662.
7. Resendes, K.K., et al. 2008. Centrin-2 localizes to the vertebrate nuclear pore and plays a role in mRNA and protein export. Mol. Cell. Biol. 28: 1755-1769.

CHROMOSOMAL LOCATION

Genetic locus: AHCTF1 (human) mapping to 1q44.

PRODUCT

ELYS 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 ELYS shRNA Plasmid (h): sc-77266-SH and ELYS shRNA (h) Lentiviral Particles: sc-77266-V as alternate gene silencing products.

For independent verification of ELYS (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-77266A, sc-77266B and sc-77266C.

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

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

GENE EXPRESSION MONITORING

ELYS (2318C2a): sc-81265 is recommended as a control antibody for monitoring of ELYS 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 ELYS gene expression knockdown using RT-PCR Primer: ELYS (h)-PR: sc-77266-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. Scholz, B.A., et al. 2019. Wnt signaling and AHCTF1 promote oncogenic Myc expression through super-enhancer-mediated gene gating. Nat. Genet. 51: 1723-1731.
2. Chachoua, I., et al. 2022. Canonical WNT signaling-dependent gating of Myc requires a noncanonical CTCF function at a distal binding site. Nat. Commun. 13: 204.

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.