SANTA CRUZ BIOTECHNOLOGY, INC.

ZNF282 siRNA (m): sc-108045

BACKGROUND

Zinc-finger proteins contain DNA-binding domains and have a wide variety of functions, most of which encompass some form of transcriptional activation or repression. The majority of zinc-finger proteins contain a Krüppel-type DNA binding domain and a KRAB domain, which is thought to interact with KAP1, thereby recruiting histone modifying proteins. ZNF282 (zinc finger protein 282), also designated HUB1, is a 671 amino acid nuclear protein that contains one KRAB domain and five C_2H_2-type zinc fingers. Expressed ubiquitously, ZNF282 binds to the 5'-TCCACCCC-3' sequence within the U5 repressive element (U5RE) of the human T cell leukemia virus type I (HTLV-1) long terminal repeat. Through its interaction with the U5RE, ZNF282 effectively represses HTLV-1-mediated expression, thereby suppressing viral replication.

REFERENCES

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2. Rosenfeld, R., et al. 1993. Zinc fingers: conserved properties that can distinguish between spurious and actual DNA-binding motifs. J. Biomol. Struct. Dyn. 11: 557-570.
3. Margolin, J.F., et al. 1994. Krüppel-associated boxes are potent transcriptional repression domains. Proc. Natl. Acad. Sci. USA 91: 4509-4513.
4. Okumura, K., et al. 1997. HUB1, a novel Krüppel type zinc finger protein, represses the human T cell leukemia virus type I long terminal repeat-mediated expression. Nucleic Acids Res. 25: 5025-5032.
5. Peng, H., et al. 2000. Biochemical analysis of the Krüppel-associated box (KRAB) transcriptional repression domain. J. Biol. Chem. 275: 18000-18010.
6. Peng, H., et al. 2000. Reconstitution of the KRAB-KAP-1 repressor complex: a model system for defining the molecular anatomy of RING-B box-coiled-coil domain-mediated protein-protein interactions. J. Mol. Biol. 295: 1139-1162.
7. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603397. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: Zfp282 (mouse) mapping to 6 B2.3.

PRODUCT

ZNF282 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 ZNF282 shRNA Plasmid (m): sc-108045-SH and ZNF282 shRNA (m) Lentiviral Particles: sc-108045-V as alternate gene silencing products.

For independent verification of ZNF282 (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-108045A, sc-108045B and sc-108045C.

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

ZNF282 siRNA (m) is recommended for the inhibition of ZNF282 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ZNF282 gene expression knockdown using RT-PCR Primer: ZNF282 (m)-PR: sc-108045-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. Ou, C.Y., et al. 2014. Coregulator cell cycle and apoptosis regulator 1 (CCAR1) positively regulates adipocyte differentiation through the glucocorticoid signaling pathway. J. Biol. Chem. 289: 17078-17086.

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.