SANTA CRUZ BIOTECHNOLOGY, INC.

YTHDF1 siRNA (m): sc-155423

BACKGROUND

The YTH domain family protein family (YTHDF) includes YTHDF1, YTHDF2 and TYHDF3. YTHDF1, also designated Dermatomyositis associated with cancer putative autoantigen 1 (DACA-1), is a 559 amino acid protein that contains one YTH domain, which is a potential RNA binding domain. YTHDF2, also designated High-glucose-regulated protein 8, CLL-associated antigen KW-14 or Renal carcinoma antigen NY-REN-2, is a 579 amino acid protein that also contains one YTH domain. YTHDF3 is a 585 amino acid protein that also contains one YTH domain. The gene encoding YTHDF1 maps to chromosome 20, which houses over 600 genes, some of which are associated with Creutzfeldt-Jakob disease, amyotrophic lateral sclerosis, spinal muscular atrophy, ring chromosome 20 epilepsy syndrome and Alagille syndrome. Additionally, chromosome 20 contains a region with numerous genes which are thought important for seminal production and may be potential targets for male contraception.

REFERENCES

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3. Masullo, C. and Macchi, G. 2001. Does PRNP gene control the clinical and pathological phenotype of human spongiform transmissible encephalopathies? Clin. Neuropathol. 20: 19-25.
4. Stoilov, P., et al. 2002. YTH: a new domain in nuclear proteins. Trends Biochem. Sci. 27: 495-497.
5. Joó, J.G., et al. 2006. Trisomy 20 mosaicism and nonmosaic trisomy 20: a report of 2 cases. J. Reprod. Med. 51: 209-212.
6. Ville, D., et al. 2006. Early pattern of epilepsy in the ring chromosome 20 syndrome. Epilepsia 47: 543-549.
7. Elghezal, H., et al. 2007. Ring chromosome 20 syndrome without deletions of the subtelomeric and CHRNA4-KCNQ2 genes loci. Eur. J. Med. Genet. 50: 441-445.
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CHROMOSOMAL LOCATION

Genetic locus: Ythdf1 (mouse) mapping to 2 H4.

PRODUCT

YTHDF1 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 YTHDF1 shRNA Plasmid (m): sc-155423-SH and YTHDF1 shRNA (m) Lentiviral Particles: sc-155423-V as alternate gene silencing products.

For independent verification of YTHDF1 (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-155423A, sc-155423B and sc-155423C.

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

YTHDF1 siRNA (m) is recommended for the inhibition of YTHDF1 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 YTHDF1 gene expression knockdown using RT-PCR Primer: YTHDF1 (m)-PR: sc-155423-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. Hu, Z., et al. 2022. N6-methyladenosine of Socs1 modulates macrophage inflammatory response in different stiffness environments. Int. J. Biol. Sci. 18: 5753-5769.

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.