SANTA CRUZ BIOTECHNOLOGY, INC.

THUMPD3 siRNA (h): sc-78419

BACKGROUND

The THUMP (after thiouridine synthases, RNA methylases and pseudouridine synthases) domain is an ancient 100-110 amino acid motif that is found in proteins that are involved in RNA-modification pathways. THUMP domains contain RNA-binding sequences and are thought to deliver RNA modification enzymes to their target substrates. THUMPD1, THUMPD2 and THUMPD3 (THUMP domain-containing protein 1, 2 and 3, respectively) are members of the methyltransferase superfamily and each contain one THUMP domain. Both THUMPD2 and THUMPD3 are expressed in tissues throughout the body with highest expression levels in skeletal muscle, spleen, thymus, liver and kidney. Due to the presence of a THUMP domain, the THUMPD proteins are thought to participate in RNA processing events throughout the cell.

REFERENCES

1. Zhang, Y., et al. 2001. Localization, genomic organization, and alternative transcription of a novel human SAM-dependent methyltransferase gene on chromosome 2p22→p21. Cytogenet. Cell Genet. 95: 146-152.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 611751. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Lehner, B. and Sanderson, C.M. 2004. A protein interaction framework for human mRNA degradation. Genome Res. 14: 1315-1323.
4. Olsen, J.V., et al. 2006. Global, *in vivo,* and site-specific phosphorylation dynamics in signaling networks. Cell 127: 635-648.
5. Gross, J.B., et al. 2006. Use of a ROSA26:GFP transgenic line for long-term *Xenopus* fate-mapping studies. J. Anat. 209: 401-413.

CHROMOSOMAL LOCATION

Genetic locus: THUMPD3 (human) mapping to 3p25.3.

PRODUCT

THUMPD3 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 THUMPD3 shRNA Plasmid (h): sc-78419-SH and THUMPD3 shRNA (h) Lentiviral Particles: sc-78419-V as alternate gene silencing products.

For independent verification of THUMPD3 (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-78419A, sc-78419B and sc-78419C.

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

THUMPD3 siRNA (h) is recommended for the inhibition of THUMPD3 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor THUMPD3 gene expression knockdown using RT-PCR Primer: THUMPD3 (h)-PR: sc-78419-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.