SANTA CRUZ BIOTECHNOLOGY, INC.

PUS10 siRNA (h): sc-94921

BACKGROUND

PUS10 (pseudouridylate synthase 10), also known as DOBI, tRNA pseudouridine 55 synthase (Psi55), tRNA-uridine isomerase or CCDC139 (coiled-coil domain-containing protein 139), is a 529 amino acid enzyme that belongs to the pseudouridine synthase Pus10 protein family. PUS10 catalyzes the isomerization of uridine to pseudouridine, which is the most common RNA post-transcriptional nucleotide modification. The isomerization of uridine is essential for many biological functions, including spliceosome biogenesis. PUS10 also acts as a modulator of TRAIL-induced cell death and is required for the progression of the apoptotic signal. PUS10 is phosphorylated upon DNA damage and is proteolytically cleaved during TRAIL-induced cell death.

REFERENCES

1. Aza-Blanc, P., et al. 2003. Identification of modulators of TRAIL-induced apoptosis via RNAi-based phenotypic screening. Mol. Cell 12: 627-637.
2. McCleverty, C.J., et al. 2007. Crystal structure of human PUS10, a novel pseudouridine synthase. J. Mol. Biol. 373: 1243-1254.
3. Park, S.Y., et al. 2009. DOBI is cleaved by caspases during TRAIL-induced apoptotic cell death. BMB Rep. 42: 511-515.
4. Anderson, C.A., et al. 2009. Investigation of Crohn's disease risk loci in ulcerative colitis further defines their molecular relationship. Gastroenterology 136: 523-529.e3.
5. Trynka, G., et al. 2009. Coeliac disease-associated risk variants in TNFAIP3 and REL implicate altered NFκB signalling. Gut 58: 1078-1083.
6. Hosgood, H.D., et al. 2009. Association between genetic variants in VEGF, ERCC3 and occupational benzene haematotoxicity. Occup. Environ. Med. 66: 848-853.

CHROMOSOMAL LOCATION

Genetic locus: PUS10 (human) mapping to 2p16.1.

PRODUCT

PUS10 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 PUS10 shRNA Plasmid (h): sc-94921-SH and PUS10 shRNA (h) Lentiviral Particles: sc-94921-V as alternate gene silencing products.

For independent verification of PUS10 (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-94921A, sc-94921B and sc-94921C.

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.

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

PUS10 siRNA (h) is recommended for the inhibition of PUS10 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 PUS10 gene expression knockdown using RT-PCR Primer: PUS10 (h)-PR: sc-94921-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.