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SANTA CRUZ BIOTECHNOLOGY, INC.

PAPD4 siRNA (m): sc-152014

BACKGROUND

PAPD4 (PAP associated domain containing 4), also known as poly(A) RNA polymerase GLD2 or TUTase 2 (terminal uridylyltransferase 2), is a 484 amino acid poly(A) RNA polymerase that adds AMP to the 3'-end of RNA, forming a poly(A) tail. Localizing to both cytoplasm and nucleus, PAPD4 exists as two alternatively spliced isoforms and contains one PAP-associated domain. PAPD4 is a member of the DNA polymerase type-B-like family and GLD2 subfamily, and is expressed in medulla, hippocampus and cerebellum. PAPD4 interacts with PABP, CPEB, CPEB2 and CPSF1, and is encoded by a gene that maps to human chromosome 5q14.1. Human chromosome 5 contains 181 million base pairs and comprises nearly 6% of the human genome. Deletion of the p arm of chromosome 5 leads to Cri du chat syndrome, while deletion of the q arm or of chromosome 5 altogether is common in therapy-related acute myelogenous leukemias and myelodysplastic syndrome.

REFERENCES

1. Brandenberger, R., et al. 2004. Transcriptome characterization elucidates signaling networks that control human ES cell growth and differentiation. Nat. Biotechnol. 22: 707-716.
2. Kwak, J.E., et al. 2004. Mammalian GLD-2 homologs are poly(A) polymerases. Proc. Natl. Acad. Sci. USA 101: 4407-4412.
3. Mullen, T.E. and Marzluff, W.F. 2008. Degradation of histone mRNA requires oligouridylation followed by decapping and simultaneous degradation of the mRNA both 5' to 3' and 3' to 5'. Genes Dev. 22: 50-65.
4. Vera-Carbonell, A., et al. 2009. Characterization of a *de novo* complex chromosomal rearrangement in a patient with Cri-du-chat and trisomy 5p syndromes. Am. J. Med. Genet. A 149A: 2513-2521.
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6. Sazawal, S., et al. 2009. Haematological molecular profile of acute myelogenous leukaemia in India. Indian J. Med. Res. 129: 256-261.
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CHROMOSOMAL LOCATION

Genetic locus: Papd4 (mouse) mapping to 13 C3.

PRODUCT

PAPD4 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 PAPD4 shRNA Plasmid (m): sc-152014-SH and PAPD4 shRNA (m) Lentiviral Particles: sc-152014-V as alternate gene silencing products.

For independent verification of PAPD4 (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-152014A, sc-152014B and sc-152014C.

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

PAPD4 siRNA (m) is recommended for the inhibition of PAPD4 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 PAPD4 gene expression knockdown using RT-PCR Primer: PAPD4 (m)-PR: sc-152014-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.