SANTA CRUZ BIOTECHNOLOGY, INC.

PAPD5 siRNA (h): sc-93016

BACKGROUND

PAPD5 (PAP associated domain containing 5), also known as TRF4-2 (topoisomerase-related function protein 4-2), is a 572 amino acid protein that localizes to the nucleus and belongs to the DNA polymerase type B-like family. Ex-pressed as multiple alternatively spliced isoforms, PAPD5 functions as a DNA polymerase that is thought to be involved in both DNA repair and sister chromatid cohesion. The gene encoding PAPD5 maps to human chromosome 16, which encodes over 900 genes and comprises nearly 3% of the human genome. The GAN gene is located on chromosome 16 and, with mutation, may lead to giant axonal neuropathy, a nervous system disorder characterized by increasing malfunction with growth. The rare disorder Rubinstein-Taybi syndrome is also associated with chromosome 16, as is Crohn's disease, which is a gastrointestinal inflammatory condition.

REFERENCES

1. Castaño, I.B., et al. 1996. A novel family of TRF (DNA topoisomerase I-related function) genes required for proper nuclear segregation. Nucleic Acids Res. 24: 2404-2410.
2. Walowsky, C., et al. 1999. The topoisomerase-related function gene TRF4 affects cellular sensitivity to the antitumor agent camptothecin. J. Biol. Chem. 274: 7302-7308.
3. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 605540. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Manning, G., et al. 2002. The protein kinase complement of the human genome. Science 298: 1912-1934.
5. Coupry, I., et al. 2004. Analysis of CBP (CREBBP) gene deletions in Rubinstein-Taybi syndrome patients using real-time quantitative PCR. Hum. Mutat. 23: 278-284.
6. Martin, J., et al. 2004. The sequence and analysis of duplication-rich human chromosome 16. Nature 432: 988-994.
7. Demir, E., et al. 2005. Giant axonal neuropathy: clinical and genetic study in six cases. J. Neurol. Neurosurg. Psychiatr. 76: 825-832.

CHROMOSOMAL LOCATION

Genetic locus: PAPD5 (human) mapping to 16q12.1.

PRODUCT

PAPD5 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 PAPD5 shRNA Plasmid (h): sc-93016-SH and PAPD5 shRNA (h) Lentiviral Particles: sc-93016-V as alternate gene silencing products.

For independent verification of PAPD5 (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-93016A, sc-93016B and sc-93016C.

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

PAPD5 siRNA (h) is recommended for the inhibition of PAPD5 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 PAPD5 gene expression knockdown using RT-PCR Primer: PAPD5 (h)-PR: sc-93016-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.