SANTA CRUZ BIOTECHNOLOGY, INC.

POLR3GL siRNA (h): sc-78946

BACKGROUND

POLR3GL (polymerase (RNA) III (DNA directed) polypeptide G (32kD)-like), also known as DNA-directed RNA polymerase III subunit RPC7-like, RPC32-like protein, RNA polymerase III subunit C7-like, alternative RNA polymerase III subunit 32 or DNA-directed RNA polymerase III subunit G-like, is a 218 amino acid phosphoprotein that belongs to the eukaryotic RPC7 RNA polymerase subunit family. Conserved in chimpanzee, canine, bovine, mouse, rat and zebrafish, POLR3GL is encoded by a gene that maps to human chromosome 1q21.1. A 212 kb microduplication on 1q21.1, which includes POLR3GL, may be linked to congenital heart defects. As the largest human chromosome, chromosome 1 makes up approximately 8% of the human genome and contains 260 million base pairs encoding 3,000 genes. A breakpoint in 1q is linked to schizophrenia, and aberrations in chromosome 1 exist in a variety of cancers, including head and neck cancer, malignant melanoma and multiple myeloma.

REFERENCES

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2. Marzin, Y., et al. 2006. Chromosome 1 abnormalities in multiple myeloma. Anticancer Res. 26: 953-959.
3. Iacobas, D.A., et al. 2008. Similar transcriptomic alterations in Cx43 knockdown and knockout astrocytes. Cell Commun. Adhes. 15: 195-206.
4. Brunet, A., et al. 2009. BAC array CGH in patients with Velocardiofacial syndrome-like features reveals genomic aberrations on chromosome region 1q21.1. BMC Med. Genet. 10: 144.
5. Severyn, C.J., et al. 2009. Molecular biology, genetics and biochemistry of the repulsive guidance molecule family. Biochem. J. 422: 393-403.
6. Haurie, V., et al. 2010. Two isoforms of human RNA polymerase III with specific functions in cell growth and transformation. Proc. Natl. Acad. Sci. USA 107: 4176-4181.

CHROMOSOMAL LOCATION

Genetic locus: POLR3GL (human) mapping to 1q21.1.

PRODUCT

POLR3GL 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 POLR3GL shRNA Plasmid (h): sc-78946-SH and POLR3GL shRNA (h) Lentiviral Particles: sc-78946-V as alternate gene silencing products.

For independent verification of POLR3GL (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-78946A, sc-78946B and sc-78946C.

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

POLR3GL siRNA (h) is recommended for the inhibition of POLR3GL 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 POLR3GL gene expression knockdown using RT-PCR Primer: POLR3GL (h)-PR: sc-78946-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.