SANTA CRUZ BIOTECHNOLOGY, INC.

RG9MTD1 siRNA (h): sc-78547

BACKGROUND

The RNA methyltransferase family of proteins catalyze the transfer of a methyl group from a donor to an RNA acceptor. Via their ability to modify RNA, RNA methyltransferase proteins play an important role in cell growth and signaling pathways and may be involved in tumor development and progression. The RNA (guanine-9-) methyltransferase domain containing proteins (namely RG9MTD1, RG9MTD2 and RG9MTD3) are probable RNA methyltransferases that may play a role in RNA modification. Due to their involvement in RNA-related pathways, the RG9MTD proteins may be associated with methylation events that lead to carcinogenesis. While both RG9MTD1 and RG9MTD2 exist as one known isoform, RG9MTD3 is expressed as three isoforms produced by alternative splicing events.

REFERENCES

1. Scanlan, M.J., et al. 1999. Antigens recognized by autologous antibody in patients with renal-cell carcinoma. Int. J. Cancer 83: 456-464.
2. Lu, Y.Y., et al. 2003. Screening of the genes of hepatitis B virus PreS2 interacting proteins. Zhonghua Gan Zang Bing Za Zhi 11: 8-10.
3. Sjöblom, T., et al. 2006. The consensus coding sequences of human breast and colorectal cancers. Science 314: 268-274.
4. Benayoun, L., et al. 2007. Abetalipoproteinemia in Israel: evidence for a founder mutation in the Ashkenazi Jewish population and a contiguous gene deletion in an Arab patient. Mol. Genet. Metab. 90: 453-457.

CHROMOSOMAL LOCATION

Genetic locus: TRMT10C (human) mapping to 3q12.3.

PRODUCT

RG9MTD1 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 RG9MTD1 shRNA Plasmid (h): sc-78547-SH and RG9MTD1 shRNA (h) Lentiviral Particles: sc-78547-V as alternate gene silencing products.

For independent verification of RG9MTD1 (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-78547A, sc-78547B and sc-78547C.

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.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

RG9MTD1 siRNA (h) is recommended for the inhibition of RG9MTD1 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.

GENE EXPRESSION MONITORING

RG9MTD1 (A-8): sc-515289 is recommended as a control antibody for monitoring of RG9MTD1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor RG9MTD1 gene expression knockdown using RT-PCR Primer: RG9MTD1 (h)-PR: sc-78547-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Wu, H., et al. 2013. Human RNase H1 is associated with protein P32 and is involved in mitochondrial pre-rRNA processing. PLoS ONE 8: e71006.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.