SANTA CRUZ BIOTECHNOLOGY, INC.

RPRML siRNA (h): sc-94132

BACKGROUND

Reprimo is a cytoplasmic protein belonging to the Reprimo family, which is involved in the regulation of p53-dependent G_2 arrest of the cell cycle. Reprimo may initiate cell cycle arrest by inhibiting Cdc2 and nuclear translocation of the Cdc2 cyclin B1 complex. A highly glycosylated protein, Reprimo also plays a role in cell cycle surveillance and DNA repair. Hypermethylation of Reprimo can lead to its transcriptional repression, which may increase pathogenesis of some types of human cancers. Reprimo has been identified as a potential biomarker for early detection multiple cancers. RPRML (Reprimo-like) is a 120 amino acid single-pass membrane protein also belonging to the Reprimo family and may have functions similar to the Reprimo protein. RPRML is encoded by a gene located on human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes.

REFERENCES

1. Ohki, R., et al. 2000. Reprimo, a new candidate mediator of the p53-mediated cell cycle arrest at the G_2 phase. J. Biol. Chem. 275: 22627-22630.
2. Ye, Z. and Parry, J.M. 2002. Identification of polymorphisms in the human Reprimo gene using public EST data. Teratog. Carcinog. Mutagen. 22: 485-493.
3. Sato, N., et al. 2003. Discovery of novel targets for aberrant methylation in pancreatic carcinoma using high-throughput microarrays. Cancer Res. 63: 3735-3742.
4. Takahashi, T., et al. 2005. Aberrant methylation of Reprimo in human malignancies. Int. J. Cancer 115: 503-510.
5. Sato, N., et al. 2006. Aberrant methylation of Reprimo correlates with genetic instability and predicts poor prognosis in pancreatic ductal adenocarcinoma. Cancer 107: 251-257.
6. Hamilton, J.P., et al. 2006. Reprimo methylation is a potential biomarker of Barrett's-associated esophageal neoplastic progression. Clin. Cancer Res. 12: 6637-6642.

CHROMOSOMAL LOCATION

Genetic locus: RPRML (human) mapping to 17q21.32.

PRODUCT

RPRML siRNA (h) is a pool of 2 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 RPRML shRNA Plasmid (h): sc-94132-SH and RPRML shRNA (h) Lentiviral Particles: sc-94132-V as alternate gene silencing products.

For independent verification of RPRML (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-94132A and sc-94132B.

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

RPRML siRNA (h) is recommended for the inhibition of RPRML 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 RPRML gene expression knockdown using RT-PCR Primer: RPRML (h)-PR: sc-94132-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.