SANTA CRUZ BIOTECHNOLOGY, INC.

REPIN1 siRNA (m): sc-76387

BACKGROUNDBACKGROUND

Zinc-finger proteins contain DNA-binding domains and have a wide variety of functions, most of which encompass some form of transcriptional activation or repression. REPIN1 (replication initiator 1), also known as ZNF464 (zinc finger protein 464), AP4 or RIP60, is a 567 amino acid nuclear protein involved in initiation of chromosomal DNA synthesis in mammalian cells, which binds 5'-ATT-3' reiterated sequences near or within the OBR (origin of bidirectional replication) zone. Existing as a homodimer and homomultimer, REPIN1 also exists in a complex with RIP100 and Geminin. REPIN1 contains 15 C_2H_2-type zinc fingers, and is encoded by a gene located on human chromosome 7q36.1 and mouse chromosome 6 B2.3.

REFERENCES

1. Dailey, L., et al. 1990. Purification of RIP60 and RIP100, mammalian proteins with origin-specific DNA-binding and ATP-dependent DNA helicase activities. Mol. Cell. Biol. 10: 6225-6235.
2. Caddle, M.S., et al. 1990. RIP60, a mammalian origin-binding protein, enhances DNA bending near the dihydrofolate reductase origin of replication. Mol. Cell. Biol. 10: 6236-6243.
3. Mastrangelo, I.A., et al. 1993. RIP60 dimers and multiples of dimers assemble link structures at an origin of bidirectional replication in the dihydrofolate reductase amplicon of Chinese hamster ovary cells. J. Mol. Biol. 232: 766-778.
4. Houchens, C.R., et al. 2000. The DHFR oribeta-binding protein RIP60 contains 15 zinc fingers: DNA binding and looping by the central three fingers and an associated proline-rich region. Nucleic Acids Res. 28: 570-581.
5. Montigny, W.J., et al. 2001. Condensation by DNA looping facilitates transfer of large DNA molecules into mammalian cells. Nucleic Acids Res. 29: 1982-1988.
6. Kim, M.Y., et al. 2006. A repressor complex, AP4 transcription factor and Geminin, negatively regulates expression of target genes in nonneuronal cells. Proc. Natl. Acad. Sci. USA 103: 13074-13079.

CHROMOSOMAL LOCATION

Genetic locus: Repin1 (mouse) mapping to 6 B2.3.

PRODUCT

REPIN1 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 REPIN1 shRNA Plasmid (m): sc-76387-SH and REPIN1 shRNA (m) Lentiviral Particles: sc-76387-V as alternate gene silencing products.

For independent verification of REPIN1 (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-76387A, sc-76387B and sc-76387C.

RESEARCH USE

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

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

REPIN1 siRNA (m) is recommended for the inhibition of REPIN1 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 REPIN1 gene expression knockdown using RT-PCR Primer: REPIN1 (m)-PR: sc-76387-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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