

Psf1 siRNA (m): sc-152540

BACKGROUND

The GINS complex is a heterotetramer consisting of Psf1, Psf2, Psf3 and SLD5. This complex plays an important role in the initiation of DNA replication and progression of DNA replication forks. Psf1 (partner of sld five-1), also known as DNA replication complex GINS protein PSF1 and GINS complex subunit 1, is a 196 protein that localizes to the nucleus and exists as a mammalian homolog of yeast Psf1. Functioning as a component of the heterotrimeric GINS complex, Psf1 binds to single-stranded DNA and plays a crucial role in complex function. In aggressive melanomas, the gene encoding Psf1 is upregulated, suggesting a possible role as a tumor biomarker in this particular form of cancer. Since Psf1 deletion causes embryonic lethality in mice around the implantation stage, it is likely that Psf1 is required for early embryogenesis. Psf1 is highly expressed in reproductive organs and lymph tissue.

REFERENCES

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2. Ueno, M., et al. 2005. PSF1 is essential for early embryogenesis in mice. *Mol. Cell. Biol.* 25: 10528-10532.
3. Boskovic, J., et al. 2007. Molecular architecture of the human GINS complex. *EMBO Rep.* 8: 678-684.
4. Choi, J.M., et al. 2007. Crystal structure of the human GINS complex. *Genes Dev.* 21: 1316-1321.
5. Kamada, K., et al. 2007. Structure of the human GINS complex and its assembly and functional interface in replication initiation. *Nat. Struct. Mol. Biol.* 14: 388-396.
6. Ryu, B., et al. 2007. Comprehensive expression profiling of tumor cell lines identifies molecular signatures of melanoma progression. *PLoS ONE* 2: e594.
7. Chang, Y.P., et al. 2007. Crystal structure of the GINS complex and functional insights into its role in DNA replication. *Proc. Natl. Acad. Sci. USA* 104: 12685-12690.

CHROMOSOMAL LOCATION

Genetic locus: Gins1 (mouse) mapping to 2 G3.

PRODUCT

Psf1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Psf1 shRNA Plasmid (m): sc-152540-SH and Psf1 shRNA (m) Lentiviral Particles: sc-152540-V as alternate gene silencing products.

For independent verification of Psf1 (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-152540A, sc-152540B and sc-152540C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Psf1 siRNA (m) is recommended for the inhibition of Psf1 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 μ M in 66 μ l. 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 Psf1 gene expression knockdown using RT-PCR Primer: Psf1 (m)-PR: sc-152540-PR (20 μ l). 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.