SANTA CRUZ BIOTECHNOLOGY, INC.

# SLD5 siRNA (h): sc-77602

## BACKGROUND

SLD5 (synthetic lethal with dpb11 mutant-5), also known as GINS4 (GINS complex subunit 4), is a 223 amino acid cytoplasmic and nuclear protein belonging to the GINS4/SLD5 family. Significantly up-regulated in aggressive melanomas, SLD5 is a component of the well-conserved evolutionarily GINS complex, a heterotetramer complex that is also composed of Psf1, Psf2 and Psf3 proteins. The GINS complex plays an important role in the initiation of DNA replication and progression of DNA replication forks. A critical component of the GINS core complex assembly, SLD5 co-localizes with Psf1 and together may cooperate in the proliferation of immature cell populations. Psf1 binds to single-stranded DNA and plays a crucial role in complex function.

## REFERENCES


1. Ueno, M., et al. 2005. Psf1 is essential for early embryogenesis in mice. Mol. Cell. Biol. 25: 10528-10532.
2. Kong, L., et al. 2006. Identification and characterization of mouse Psf1-binding protein, SLD5. Biochem. Biophys. Res. Commun. 339: 1204-1207.
3. Boskovic, J., et al. 2007. Molecular architecture of the human GINS complex. EMBO Rep. 8: 678-684.
4. 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.
5. Ryu, B., et al. 2007. Comprehensive expression profiling of tumor cell lines identifies molecular signatures of melanoma progression. PLoS ONE 2: e594.
6. 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.
7. Nagahama, Y., et al. 2010. Psf3 marks malignant colon cancer and has a role in cancer cell proliferation. Biochem. Biophys. Res. Commun. 392: 150-154.
8. MacNeill, S.A. 2010. Structure and function of the GINS complex, a key component of the eukaryotic replisome. Biochem. J. 425: 489-500.


## CHROMOSOMAL LOCATION

Genetic locus: GINS4 (human) mapping to 8p11.21.

## PRODUCT

SLD5 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 SLD5 shRNA Plasmid (h): sc-77602-SH and SLD5 shRNA (h) Lentiviral Particles: sc-77602-V as alternate gene silencing products.

For independent verification of SLD5 (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-77602A, sc-77602B and sc-77602C.

## 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

SLD5 siRNA (h) is recommended for the inhibition of SLD5 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

SLD5 (D-7): sc-398784 is recommended as a control antibody for monitoring of SLD5 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 SLD5 gene expression knockdown using RT-PCR Primer: SLD5 (h)-PR: sc-77602-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.