



# Septin 12 siRNA (h): sc-93540

## BACKGROUND

Septins are members of a conserved family of cytoskeletal GTPases, specifically belonging to the large superclass of P loop GTPases. Septin proteins form homo- and hetero-oligomeric polymers that accumulate into higher-order filaments which may function as dynamic protein scaffolds. Septins play an important role in vesicle trafficking, apoptosis, cytoskeleton remodeling, infection, neurodegeneration, neoplasia and cytokinesis. Septin 12, also known as SEPT12, is a 358 amino acid cytoplasmic protein and filament-forming cytoskeletal GTPase that belongs to the Septin family. Widely expressed and existing as two alternatively spliced isoforms, Septin 12 expression levels are critical for mammalian spermiogenesis. Suggested to play a role in cytokinesis, Septin 12 can exist as a homodimer and interacts with both Septin 6 and Septin 11.

## REFERENCES

1. Kinoshita, M. 2003. The septins. *Genome Biol.* 4: 236.
2. Kinoshita, M. 2003. Assembly of mammalian septins. *J. Biochem.* 134: 491-496.
3. Hall, P.A., Jung, K., Hillan, K.J. and Russell, S.E. 2005. Expression profiling the human septin gene family. *J. Pathol.* 206: 269-278.
4. Ding, X., Yu, W., Liu, M., Shen, S., Chen, F., Wan, B. and Yu, L. 2007. SEPT12 interacts with SEPT6 and this interaction alters the filament structure of SEPT6 in Hela cells. *J. Biochem. Mol. Biol.* 40: 973-978.
5. Ding, X., Yu, W., Liu, M., Shen, S., Chen, F., Cao, L., Wan, B. and Yu, L. 2008. GTP binding is required for SEPT12 to form filaments and to interact with SEPT11. *Mol. Cells* 25: 385-389.
6. Lin, Y.H., Lin, Y.M., Wang, Y.Y., Yu, I.S., Lin, Y.W., Wang, Y.H., Wu, C.M., Pan, H.A., Chao, S.C., Yen, P.H., Lin, S.W. and Kuo, P.L. 2009. The expression level of Septin 12 is critical for spermiogenesis. *Am. J. Pathol.* 174: 1857-1868.

## CHROMOSOMAL LOCATION

Genetic locus: SEPT12 (human) mapping to 16p13.3.

## PRODUCT

Septin 12 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Septin 12 shRNA Plasmid (h): sc-93540-SH and Septin 12 shRNA (h) Lentiviral Particles: sc-93540-V as alternate gene silencing products.

For independent verification of Septin 12 (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-93540A, sc-93540B and sc-93540C.

## PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

Septin 12 siRNA (h) is recommended for the inhibition of Septin 12 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  $\mu$ M in 66  $\mu$ 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 Septin 12 gene expression knockdown using RT-PCR Primer: Septin 12 (h)-PR: sc-93540-PR (20  $\mu$ 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.