



# Spi-C siRNA (m): sc-76562

## BACKGROUND

The Ets transcription factor family is comprised of DNA-binding proteins that influence lymphoid development and activity and bind the consensus DNA site GGA(A/T) through a unique winged helix-turn-helix motif known as the Ets domain. Spi-B and Spi-C (also known as SPIC) are closely related Ets family members which share a conserved divergent sequence within the Ets domain that enables their binding to non-canonical AGAA sites. Spi-C is a 248 amino acid protein that localizes to the nucleus and, like other Ets family members, binds DNA as a monomer and plays a role in transcriptional regulation. Additionally, Spi-C is thought to control the development of red pulp macrophages, thereby contributing to iron homeostasis and red blood cell recycling. Human Spi-C shares 65% amino acid identity with its mouse counterpart, suggesting a conserved role between species.

## REFERENCES

1. Carlsson, R., et al. 2002. Genomic structure of mouse Spi-C and genomic structure and expression pattern of human Spi-C. *Gene* 299: 271-278.
2. Kageyama, S., et al. 2006. The role of ETS transcription factors in transcription and development of mouse preimplantation embryos. *Biochem. Biophys. Res. Commun.* 344: 675-679.
3. Carlsson, R., et al. 2006. Spi-C and Stat6 can cooperate to stimulate IgE germline transcription. *Biochem. Biophys. Res. Commun.* 344: 1155-1160.
4. Guillouf, C., et al. 2006. Spi-1/PU.1 oncoprotein affects splicing decisions in a promoter binding-dependent manner. *J. Biol. Chem.* 281: 19145-19155.
5. Schweitzer, B.L., et al. 2006. Spi-C has opposing effects to PU.1 on gene expression in progenitor B cells. *J. Immunol.* 177: 2195-2207.
6. Zhu, X., et al. 2008. Transgenic expression of Spi-C impairs B-cell development and function by affecting genes associated with Bcr signaling. *Eur. J. Immunol.* 38: 2587-2599.
7. Uchiya, K. and Nikai, T. 2008. Salmonella virulence factor Spi-C is involved in expression of flagellin protein and mediates activation of the signal transduction pathways in macrophages. *Microbiology* 154: 3491-3502.

## CHROMOSOMAL LOCATION

Genetic locus: Spic (mouse) mapping to 10 C1.

## PRODUCT

Spi-C 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Spi-C shRNA Plasmid (m): sc-76562-SH and Spi-C shRNA (m) Lentiviral Particles: sc-76562-V as alternate gene silencing products.

For independent verification of Spi-C (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-76562A, sc-76562B and sc-76562C.

## 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  $\mu$ 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

Spi-C siRNA (m) is recommended for the inhibition of Spi-C 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  $\mu$ 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 Spi-C gene expression knockdown using RT-PCR Primer: Spi-C (m)-PR: sc-76562-PR (20  $\mu$ l). 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](http://www.scbt.com) for detailed protocols and support products.