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- Expressversand

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# Sp5 siRNA (m): sc-153690

## BACKGROUND

The Sp transcription factor family includes Sp1, Sp2, Sp3 (SPR-2), Sp4 (SPR-1) and Sp5. Sp transcription factors share similar structures but do not share similar functions. All five proteins contain a highly conserved DNA-binding domain composed of three zinc fingers at the C-terminus. Sp family members bind the consensus sequence GGGGCGGGGC and other closely related sequences which are known as GC boxes. Sp5 is a 398 amino acid transcription factor that localizes to the nucleus and contains three C<sub>2</sub>H<sub>2</sub>-type zinc fingers. Sp5 is suggested to have a role in the coordination of changes in transcription required to generate patterns in the developing embryo. Sp5 is considered a novel direct down-stream target in the Wnt signaling pathway, which regulates many processes during vertebrate development.

## REFERENCES

- Harrison, S.M., et al. 2000. Sp5, a new member of the Sp1 family, is dynamically expressed during development and genetically interacts with brachyury. *Dev. Biol.* 227: 358-372.
- Treichel, D., et al. 2001. The novel transcription factor gene Sp5 exhibits a dynamic and highly restricted expression pattern during mouse embryogenesis. *Mech. Dev.* 101: 175-179.
- Weidinger, G., et al. 2005. The Sp1-related transcription factors Sp5 and Sp5-like act downstream of Wnt/ $\beta$ -catenin signaling in mesoderm and neuroectoderm patterning. *Curr. Biol.* 15: 489-500.
- Thorpe, C.J., et al. 2005. Wnt/ $\beta$ -catenin regulation of the Sp1-related transcription factor Sp5l promotes tail development in zebrafish. *Development* 132: 1763-1772.
- Takahashi, M., et al. 2005. Identification of SP5 as a downstream gene of the  $\beta$ -catenin/Tcf pathway and its enhanced expression in human colon cancer. *Int. J. Oncol.* 27: 1483-1487.
- Chen, Y., et al. 2006. Elevated expression and potential roles of human Sp5, a member of Sp transcription factor family, in human cancers. *Biochem. Biophys. Res. Commun.* 340: 758-766.
- Fujimura, N., et al. 2007. Wnt-mediated downregulation of Sp1 target genes by a transcriptional repressor Sp5. *J. Biol. Chem.* 282: 1225-1237.

## CHROMOSOMAL LOCATION

Genetic locus: Sp5 (mouse) mapping to 2 C2.

## PRODUCT

Sp5 siRNA (m) is a target-specific 19-25 nt siRNA 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 Sp5 shRNA Plasmid (m): sc-153690-SH and Sp5 shRNA (m) Lentiviral Particles: sc-153690-V as alternate gene silencing products.

## 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

Sp5 siRNA (m) is recommended for the inhibition of Sp5 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 Sp5 gene expression knockdown using RT-PCR Primer: Sp5 (m)-PR: sc-153690-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.