SANTA CRUZ BIOTECHNOLOGY, INC.

Sall3 siRNA (h): sc-45624

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Sall3 (Sall3, sal-like 3) and Sall4 (Sall4, sal-like 4) are mammalian homologs of the *Drosophila* region-specific homeotic gene spalt (sal), which encodes a zinc finger-containing transcription regulator. *Drosophila* spalt (sal) is an essential genetic component required for the specification of posterior head and anterior tail as opposed to trunk. Sall3 is expressed at 24 weeks of gestation in several regions of the human fetal brain including neurons of the hippocampus formation and of mediodorsal and ventrolateral thalamic nuclei, Purkinje cells of the cerebellum, and a subset of neurons in the brainstem. Sall4 expression in early mouse embryos is gradually confined to the head region and the primitive streak, followed by prominent expression in the developing midbrain, branchial arches, limbs, and genital papilla.

REFERENCES

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2. Sato, A., et al. 2003. Zinc finger protein Sall2 is not essential for embryonic and kidney development. Mol. Cell. Biol. 23: 62-69.
3. Wabbels, B.K., et al. 2004. No evidence of Sall4-mutations in isolated sporadic duane retraction "syndrome" (DURS). Am. J. Med. Genet. A 131A: 216-218.
4. Borozdin, W., et al. 2004. Sall4 deletions are a common cause of Okihiro and acro-renal-ocular syndromes and confirm haploinsufficiency as the pathogenic mechanism. J. Med. Genet. 41: e113.
5. Kohlhase, J., et al. 2004. Mutations in Sall4 in malformed father and daughter postulated previously due to reflect mutagenesis by thalidomide. Birth Defects Res. Part A Clin. Mol. Teratol. 70: 550-551.
6. Borozdin, W., et al. 2004. Novel mutations in the gene Sall4 provide further evidence for acro-renal-ocular and Okihiro syndromes being allelic entities, and extend the phenotypic spectrum. J. Med. Genet. 41: e102.
7. Parrish, M., et al. 2004. Loss of the Sall3 gene leads to palate deficiency, abnormalities in cranial nerves, and perinatal lethality. Mol. Cell. Biol. 24: 7102-7112.
8. Sato, A., et al. 2004. Sall1, a causative gene for Townes-Brocks syndrome, enhances the canonical Wnt signaling by localizing to heterochromatin. Biochem. Biophys. Res. Commun. 319: 103-113.
9. Takasato, M., et al. 2004. Identification of kidney mesenchymal genes by a combination of microarray analysis and Sall1-GFP knockin mice. Mech. Dev. 121: 547-557.

CHROMOSOMAL LOCATION

Genetic locus: SALL3 (human) mapping to 18q23.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

PRODUCT

Sall3 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 Sall3 shRNA Plasmid (h): sc-45624-SH and Sall3 shRNA (h) Lentiviral Particles: sc-45624-V as alternate gene silencing products.

For independent verification of Sall3 (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-45624A, sc-45624B and sc-45624C.

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

Sall3 siRNA (h) is recommended for the inhibition of Sall3 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

Sall3 (A-9): sc-271818 is recommended as a control antibody for monitoring of Sall3 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Sall3 gene expression knockdown using RT-PCR Primer: Sall3 (h)-PR: sc-45624-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.