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# Sall4 shRNA (h) Lentiviral Particles: sc-45808-V

## BACKGROUND

Sall3 (SALL3, sal-like 3) and Sall4 (SALL4, sal-like 4) are mammalian homologs of the *Drosophila* region-specific homeotic gene spalt, which encodes a zinc finger-containing transcription regulator. *Drosophila* spalt 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 mediadorsal 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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- Sato, A., et al. 2003. Zinc finger protein Sall2 is not essential for embryonic and kidney development. *Mol. Cell. Biol.* 23: 62-69.
- Wabbels, B.K., et al. 2004. No evidence of SALL4-mutations in isolated sporadic duane retraction "syndrome" (DURS). *Am. J. Med. Genet.* 131: 216-218.
- Borozdin, W., et al. 2004. SALL4 deletions are a common cause of Okhiro and acro-renal-ocular syndromes and confirm haploinsufficiency as the pathogenic mechanism. *J. Med. Genet.* 41: e113.
- 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.
- Borozdin, W., et al. 2004. Novel mutations in the gene SALL4 provide further evidence for acro-renal-ocular and Okhiro syndromes being allelic entities, and extend the phenotypic spectrum. *J. Med. Genet.* 41: e102.

## CHROMOSOMAL LOCATION

Genetic locus: SALL4 (human) mapping to 20q13.2.

## PRODUCT

Sall4 shRNA (h) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 3 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200  $\mu$ l frozen stock containing  $1.0 \times 10^6$  infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see Sall4 siRNA (h): sc-45808 and Sall4 shRNA Plasmid (h): sc-45808-SH as alternate gene silencing products.

## STORAGE

Store lentiviral particles at  $-80^\circ\text{C}$ . Stable for at least one year from the date of shipment. Once thawed, particles can be stored at  $4^\circ\text{C}$  for up to one week. Avoid repeated freeze thaw cycles.

## APPLICATIONS

Sall4 shRNA (h) Lentiviral Particles is recommended for the inhibition of Sall4 expression in human cells.

## SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200  $\mu$ l frozen viral stock containing  $1.0 \times 10^6$  infectious units of virus (IFU); contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

## GENE EXPRESSION MONITORING

Sall4 (G-3): sc-166033 is recommended as a control antibody for monitoring of Sall4 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 (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Sall4 gene expression knockdown using RT-PCR Primer: Sall4 (h)-PR: sc-45808-PR (20  $\mu$ l, 585 bp). Annealing temperature for the primers should be  $55-60^\circ\text{C}$  and the extension temperature should be  $68-72^\circ\text{C}$ .

## BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.

## RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.

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