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Sall4 siRNA (h): sc-45808

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 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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- 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 Okihiro 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 Okihiro 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 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Sall4 shRNA Plasmid (h): sc-45808-SH and Sall4 shRNA (h) Lentiviral Particles: sc-45808-V as alternate gene silencing products.

For independent verification of Sall4 (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-45808A, sc-45808B and sc-45808C.

PROTOCOLS

See our web site at 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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Sall4 siRNA (h) is recommended for the inhibition of Sall4 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 μ M in 66 μ 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.

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 reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

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 μ l, 585 bp). 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.