SANTA CRUZ BIOTECHNOLOGY, INC.

# OSR2 siRNA (m): sc-62724

## BACKGROUND

OSR (Odd-skipped related) proteins belong to the Odd $C_2H_2$-type zinc-finger protein family and are involved in embryonic development and bone formation. OSR2 (odd-skipped related 2) is a 312 amino acid protein that contains five zinc finger domains. It is expressed in the kidneys, skeletal muscle, testis, and mouse embryos and may be involved in transcriptional activity and osteoblast function. The expression of OSR2 is regulated by C/EBP regulatory elements. OSR2 plays a role in regulating palatal development and expression of alkaline phosphatase. Two isoforms, OSR2A and OSR2B, are produced due to alternative splicing. OSR2B is 36 amino acids shorter than OSR2A and contains only three zinc finger motifs. Both isoforms localize to the nucleus and are thought to exhibit opposite transcriptional activities. Mutations in the gene encoding OSR2 can alter the gene expression of Pax-9 and TGFβ3.

## REFERENCES


1. Lan, Y., et al. 2001. Osr2, a new mouse gene related to *Drosophila* odd-skipped, exhibits dynamic expression patterns during craniofacial, limb, and kidney development. Mech. Dev. 107: 175-179.
2. Debeer, P., et al. 2002. Human homologues of Osr1 and Osr2 are not involved in a syndrome with distal limb deficiencies, oral abnormalities, and renal defects. Am. J. Med. Genet. 111: 455-456.
3. Lan, Y., et al. 2004. Odd-skipped related 2 (Osr2) encodes a key intrinsic regulator of secondary palate growth and morphogenesis. Development 131: 3207-3216.
4. Kawai, S., et al. 2005. Odd-skipped related 2 splicing variants show opposite transcriptional activity. Biochem. Biophys. Res. Commun. 328: 306-311.
5. Kawai, S., et al. 2006. Odd-skipped related 2 gene transcription is regulated by CCAAT enhancer-binding protein δ in mesenchymal C3H10T1/2 cells. Genes Cells 11: 163-175.
6. Stricker, S., Brieske, N., Haupt, J. and Mundlos, S. 2006. Comparative expression pattern of Odd-skipped related genes Osr1 and Osr2 in chick embryonic development. Gene Expr. Patterns 6: 826-834.
7. Tena, J.J., et al. 2007. Odd-skipped genes encode repressors that control kidney development. Dev. Biol. 301: 518-531.


## CHROMOSOMAL LOCATION

Genetic locus: Osr2 (mouse) mapping to 15 B3.1.

## PRODUCT

OSR2 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see OSR2 shRNA Plasmid (m): sc-62724-SH and OSR2 shRNA (m) Lentiviral Particles: sc-62724-V as alternate gene silencing products.

For independent verification of OSR2 (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-62724A, sc-62724B and sc-62724C.

## 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

OSR2 siRNA (m) is recommended for the inhibition of OSR2 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 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

OSR2 (H-8): sc-393516 is recommended as a control antibody for monitoring of OSR2 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 OSR2 gene expression knockdown using RT-PCR Primer: OSR2 (m)-PR: sc-62724-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.

## PROTOCOLS

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