

# ASCL4 siRNA (m): sc-141299

## BACKGROUND

Members of the myogenic determination family are basic helix-loop-helix (bHLH) proteins that can be separated into two classes, both of which work together to activate DNA transcription. Class A proteins include the ubiquitously expressed E-box binding factors, namely E2A, ITF-2 and HEB, while class B proteins, such as MyoD, myogenin and Neuro D (BETA2), are transiently expressed and exhibit a much more limited tissue distribution. Working in opposition to these positively acting factors are a specialized group of bHLH transcription factors that functions as dominant negative regulators and are involved in cell lineage determination and differentiation. ASCL4 (achaete-scute homolog 4), also known as HASH4 or BHLHA44 (class A basic helix-loop-helix protein 44), is a 172 amino acid protein that localizes to nucleus and contains one bHLH domain. ASCL4 is expressed in skin, with a seven-fold increase in fetal skin compared to adult skin, and may function as a transcriptional regulator in skin development. ASCL4 is weakly expressed in fetal lung, aorta and brain, as well as adult stomach, kidney, ovary and breast. The gene that encodes ASCL4 maps to human chromosome 12q23.3.

## REFERENCES

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2. Jonsson, M., et al. 2004. Hash4, a novel human achaete-scute homologue found in fetal skin. *Genomics* 84: 859-866.
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## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## CHROMOSOMAL LOCATION

Genetic locus: *Ascl4* (mouse) mapping to 10 C1.

## PRODUCT

ASCL4 siRNA (m) is a pool of 2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ASCL4 shRNA Plasmid (m): sc-141299-SH and ASCL4 shRNA (m) Lentiviral Particles: sc-141299-V as alternate gene silencing products.

For independent verification of ASCL4 (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-141299A and sc-141299B.

## 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

ASCL4 siRNA (m) is recommended for the inhibition of ASCL4 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 ASCL4 gene expression knockdown using RT-PCR Primer: ASCL4 (m)-PR: sc-141299-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.