

# Bob 1 siRNA (m): sc-29819

## BACKGROUND

POU domain proteins contain a bipartite DNA-binding domain divided by a flexible linker that enables them to adopt various monomer configurations on DNA. The versatility of POU protein operation is additionally conferred at the dimerization level. The POU dimer from the OCT1 gene formed on the palindromic OCT factor recognition element, or PORE (ATTGAAATGCAAAT), could recruit the transcriptional coactivator OBF1. Studies of tissue-specific expression of immunoglobulin promoters demonstrate the importance of an octamer, ATTTGCAT, and the proteins that bind to it. This is a regulatory element important for tissue- and cell-specific transcription as well as for transcription of a number of housekeeping genes. Oct-1 encodes one protein, NF-A1, which is found in nuclear extracts from all cell types and thus is not specific to lymphoid cells as is the protein NF-A2, which is encoded by Oct-2. A novel protein designated Bob 1 (B cell Oct binding protein 1), alternatively called OBF-1, specifically interacts with Oct-1 and Oct-2, enhancing their transcriptional efficacy. Bob 1 is expressed at highest levels in spleen and peripheral blood leukocytes and represents an Oct co-factor capable of conferring cell-specific activation of Oct-1 and Oct-2. Although having no intrinsic capacity for DNA binding, Bob 1 associates tightly with the octamer motif in the presence of Oct-1 and/or Oct-2. The gene which encodes Bob 1 maps to human chromosome 11q23.1.

## REFERENCES

1. Clerc, R.G., et al. 1988. The B-cell specific oct-2 protein contains POU box- and homeobox-type domains. *Genes Dev.* 2: 1570-1581.
2. Scheidereit, C., et al. 1988. A human lymphoid-specific transcription factor that activates immunoglobulin genes is a homeobox protein. *Nature* 336: 551-557.
3. Strubin, M., et al. 1995. OBF-1, a novel B cell-specific coactivator that stimulates immunoglobulin promoter activity through association with octamer-binding proteins. *Cell* 80: 497-506.
4. Gstalger, M., et al. 1995. A B cell coactivator of octamer-binding transcription factors. *Nature* 373: 360-362.

## CHROMOSOMAL LOCATION

Genetic locus: Pou2af1 (mouse) mapping to 9 A5.3.

## PRODUCT

Bob 1 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Bob 1 shRNA Plasmid (m): sc-29819-SH and Bob 1 shRNA (m) Lentiviral Particles: sc-29819-V as alternate gene silencing products.

For independent verification of Bob 1 (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-29819A, sc-29819B and sc-29819C.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## 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

Bob 1 siRNA (m) is recommended for the inhibition of Bob 1 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.

## GENE EXPRESSION MONITORING

Bob 1 (6F10): sc-23932 is recommended as a control antibody for monitoring of Bob 1 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 Bob 1 gene expression knockdown using RT-PCR Primer: Bob 1 (m)-PR: sc-29819-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## PROTOCOLS

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