SANTA CRUZ BIOTECHNOLOGY, INC.

# Mog1p siRNA (m): sc-75809

## BACKGROUND

The small Ras-related protein, Ran, also called TC4, is a nuclear GTPase implicated in a diverse array of cellular processes including DNA replication, entry into and exit from mitosis and the transport of RNA and proteins through the nuclear pore complex. Mog1p, also known as RanGNRF (Ran guanine nucleotide release factor) or Ran-binding protein MOG1, is a 186 amino acid protein that shuttles between the nucleus and the cytoplasm and is thought to regulate the intracellular trafficking of Ran. Mog1p has been found to be a monomer that interacts with Ran and $Na^+$ CP type V$\alpha$, as well as forms a complex with Ran and Ran BP-1. Mog1p exists as four isoforms produced by alternative splicing events, with isoforms one and two being expressed ubiquitously.

## REFERENCES


1. Moroianu, J. and Blobel, G. 1995. Protein export from the nucleus requires the GTPase Ran and GTP hydrolysis. Proc. Natl. Acad. Sci. USA 92: 4318-4322.
2. Zhang, Q.H., et al. 2000. Cloning and functional analysis of cDNAs with open reading frames for 300 previously undefined genes expressed in $CD34^+$ hematopoietic stem/progenitor cells. Genome Res. 10: 1546-1560.
3. Steggerda, S.M. and Paschal, B.M. 2000. The mammalian Mog1 protein is a guanine nucleotide release factor for Ran. J. Biol. Chem. 275: 23175-23180.
4. Marfatia, K.A., et al. 2001. Identification and characterization of the human MOG1 gene. Gene 266: 45-56.
5. Steggerda, S.M. and Paschal, B.M. 2001. Identification of a conserved loop in Mog1 that releases GTP from Ran. Traffic 2: 804-811.


## CHROMOSOMAL LOCATION

Genetic locus: Rangrf (mouse) mapping to 11 B3.

## PRODUCT

Mog1p 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 Mog1p shRNA Plasmid (m): sc-75809-SH and Mog1p shRNA (m) Lentiviral Particles: sc-75809-V as alternate gene silencing products.

For independent verification of Mog1p (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-75809A, sc-75809B and sc-75809C.

## 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.

## 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

Mog1p siRNA (m) is recommended for the inhibition of Mog1p 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

Mog1p (F-8): sc-398128 is recommended as a control antibody for monitoring of Mog1p 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$\kappa$ BP-HRP: sc-516102 or m-IgG$\kappa$ 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$\kappa$ BP-FITC: sc-516140 or m-IgG$\kappa$ 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 Mog1p gene expression knockdown using RT-PCR Primer: Mog1p (m)-PR: sc-75809-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.