SANTA CRUZ BIOTECHNOLOGY, INC.

# MGA siRNA (h): sc-89945

## BACKGROUND

Myc regulation of cell proliferation and differentiation involves a family of related transcription factors. One such factor, Max, is an obligate heterodimeric partner for Myc and can also form heterodimers with proteins of the Mad family (Mad 1, Mxi1, Mad 3, Mad 4, Mnt and MGA). These dimers bind to the E-box sequence CACGTG in order to regulate cell growth, proliferation and apoptosis. MGA (Max gene associated), also known as MAD5 or MXD5 (Max dimerization protein 5), is a distinct member of the Mad family. Unlike Myc, Mad and Mnt proteins, MGA contains a Myc-like bHLHZip motif and a T-box DNA-binding domain. This suggests that MGA is capable of regulating the transcription of both Max-network and T-box target genes. In addition, MGA can function as both a transcriptional repressor and transcriptional activator. MGA is a widely expressed protein and a putative Myc oncoprotein antagonist.

## REFERENCES


1. Hurlin, P.J., et al. 2000. MGA, a dual-specificity transcription factor that interacts with Max and contains a T-domain DNA-binding motif. EMBO J. 18: 7019-7028.
2. Grandori, C., et al. 2001. The Myc/Max/Mad network and the transcriptional control of cell behavior. Annu. Rev. Cell Dev. Biol. 16: 653-699.
3. Ogawa, H., et al. 2002. A complex with chromatin modifiers that occupies E2F- and Myc-responsive genes in $G_0$ cells. Science 296: 1132-1136.
4. Ansieau, S. and Leutz, A. 2002. The conserved Mynd domain of BS69 binds cellular and oncoviral proteins through a common PXLXP motif. J. Biol. Chem. 277: 4906-4910.
5. Lardelli, M. 2003. The evolutionary relationships of zebrafish genes TBX6, tbx16/spadetail and MGA. Dev. Genes Evol. 213: 519-522.
6. Hurlin, P.J. and Huang, J. 2006. The Max-interacting transcription factor network. Semin. Cancer Biol. 16: 265-274.
7. Rottmann, S. and Lüscher, B. 2006. The Mad side of the Max network: antagonizing the function of Myc and more. Curr. Top. Microbiol. Immunol. 302: 63-122.


## CHROMOSOMAL LOCATION

Genetic locus: MGA (human) mapping to 15q15.1.

## PRODUCT

MGA siRNA (h) is a target-specific 19-25 nt siRNA 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 MGA shRNA Plasmid (h): sc-89945-SH and MGA shRNA (h) Lentiviral Particles: sc-89945-V as alternate gene silencing products.

## 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

MGA siRNA (h) is recommended for the inhibition of MGA 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 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

MGA (MGA6A4H5): sc-81105 is recommended as a control antibody for monitoring of MGA 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 MGA gene expression knockdown using RT-PCR Primer: MGA (h)-PR: sc-89945-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS


1. Varble, A., et al. 2013. An *in vivo* RNAi screening approach to identify host determinants of virus replication. Cell Host Microbe 14: 346-356.


## RESEARCH USE

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