

# MAS1 siRNA (m): sc-62601

## BACKGROUND

The proto-oncogene MAS1 is a G protein-coupled receptor located on the plasma membrane. In transfected NIH/3T3 cells, MAS1 has a weak focus-inducing activity. MAS1 is an antagonist of the Angiotensin II type 1 (AT1) receptor, inhibiting the actions of Angiotensin II. MAS1 localizes to cardiomyocytes of the heart in mice. Mice deficient for MAS1 demonstrate a lower systolic tension and heart rate. The proper structure and function of the heart may be impaired by nonfunctional MAS1.

## REFERENCES

1. Young, D., et al. 1986. Isolation and characterization of a new cellular oncogene encoding a protein with multiple potential transmembrane domains. *Cell* 45: 711-719.
2. Alenina, N., et al. 2002. Imprinting of the murine MAS1 proto-oncogene is restricted to its antisense RNA. *Biochem. Biophys. Res. Commun.* 290: 1072-1078.
3. Kostenis, E., et al. 2005. G protein-coupled receptor MAS1 is a physiological antagonist of the Angiotensin II type 1 receptor. *Circulation* 111: 1806-1813.
4. Tallant, E.A., et al. 2005. Angiotensin-(1-7) inhibits growth of cardiac myocytes through activation of the MAS receptor. *Am. J. Physiol. Heart Circ. Physiol.* 289: H1560-H1566.
5. Castro, C.H., et al. 2005. Evidence for a functional interaction of the Angiotensin-(1-7) receptor MAS1 with AT1 and AT2 receptors in the mouse heart. *Hypertension* 46: 937-942.

## CHROMOSOMAL LOCATION

Genetic locus: Mas1 (mouse) mapping to 17 A1.

## PRODUCT

MAS1 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 MAS1 shRNA Plasmid (m): sc-62601-SH and MAS1 shRNA (m) Lentiviral Particles: sc-62601-V as alternate gene silencing products.

For independent verification of MAS1 (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-62601A, sc-62601B and sc-62601C.

## 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

MAS1 siRNA (m) is recommended for the inhibition of MAS1 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

MAS1 (G-1): sc-390453 is recommended as a control antibody for monitoring of MAS1 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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MAS1 gene expression knockdown using RT-PCR Primer: MAS1 (m)-PR: sc-62601-PR (20  $\mu$ l, 456 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

1. Than, A., et al. 2013. Control of adipogenesis by the autocrine interplays between angiotensin 1-7/Mas receptor and Angiotensin II/AT1 receptor signaling pathways. *J. Biol. Chem.* 288: 15520-15531.
2. Dang, R., et al. 2021. Activation of angiotensin-converting enzyme 2/angiotensin (1-7)/mas receptor axis triggers autophagy and suppresses microglia proinflammatory polarization via forkhead box class O1 signaling. *Aging Cell* 20: e13480.

## RESEARCH USE

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

## PROTOCOLS

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