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# MCPIP siRNA (r): sc-156178

## BACKGROUND

MCPIP (MCP-induced protein 1), also known as ZC3H12A (zinc finger CCCH-type containing 12A), is a 599 amino acid protein that localizes to the nucleus and contains one C3H1-type zinc finger. Functioning as a transcriptional activator, MCPIP triggers apoptosis and promotes MCP-1 and CJR-2B-induced angiogenesis, possibly playing a role in the development of acute monocytic leukemia. Overexpression of MCPIP is associated with ischemic heart disease, a condition characterized by reduced blood flow to the heart, often as a result of coronary artery disease. The gene encoding MCPIP maps to human chromosome 1p34.3, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome.

## REFERENCES

1. Bidzhekov, K., et al. 2006. MCP-1 induces a novel transcription factor with proapoptotic activity. *Circ. Res.* 98: 1107-1109.
2. Zhou, L., et al. 2006. Monocyte chemoattractant protein-1 induces a novel transcription factor that causes cardiac myocyte apoptosis and ventricular dysfunction. *Circ. Res.* 98: 1177-1185.
3. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610562. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Liang, J., et al. 2008. A novel CCCH-zinc finger protein family regulates proinflammatory activation of macrophages. *J. Biol. Chem.* 283: 6337-6346.
5. Niu, J., et al. 2008. Monocyte chemotactic protein (MCP)-1 promotes angiogenesis via a novel transcription factor, MCP-1-induced protein (MCPIP). *J. Biol. Chem.* 283: 14542-14551.
6. Liang, J., et al. 2008. Genome-wide survey and expression profiling of CCCH-zinc finger family reveals a functional module in macrophage activation. *PLoS ONE* 3: e2880.
7. Matsushita, K., et al. 2009. Zc3h12a is an RNase essential for controlling immune responses by regulating mRNA decay. *Nature* 458: 1185-1190.

## CHROMOSOMAL LOCATION

Genetic locus: Zc3h12a (rat) mapping to 5q36.

## PRODUCT

MCPIP siRNA (r) 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 MCPIP shRNA Plasmid (r): sc-156178-SH and MCPIP shRNA (r) Lentiviral Particles: sc-156178-V as alternate gene silencing products.

For independent verification of MCPIP (r) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-156178A, sc-156178B and sc-156178C.

## PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ 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

MCPIP siRNA (r) is recommended for the inhibition of MCPIP expression in rat 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

MCPIP (H-6): sc-515275 is recommended as a control antibody for monitoring of MCPIP 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 MCPIP gene expression knockdown using RT-PCR Primer: MCPIP (r)-PR: sc-156178-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.