

# MAPBPIP siRNA (m): sc-77328

## BACKGROUND

MP1 (MEK partner 1) functions as a scaffolding protein in the mitogen activated protein (MAP) kinase signaling pathway. Growth factor induced MAP kinase activation is selectively mediated by the extracellular signal-regulated kinase (ERK) cascade. MAPBPIP (mitogen-activated protein-binding protein-interacting protein), also known as p14 and late endosomal/lysosomal MP1-interacting protein, functions as an adaptor protein augmenting the regulation of the MAP kinase cascade. Partner proteins MAPBPIP and MP1 are structurally almost identical each with a five-stranded  $\beta$ -sheet flanked between a two-helix and one-helix layer. MAPBPIP compels the recruitment of MP1 to late endosomes where they form a very stable heterodimeric complex required for ERK activation on endosomes. Knockdown of the individual proteins in the MP1/MAPBPIP complex resulted in decreased expression of the partner proteins which implies greater stability of the heterodimeric complex than either MP1 or MAPBPIP individually. Early research suggests the MP1-MAPBPIP-MEK-1 signaling complex may be critical in the regulation of tissue homeostasis.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: Lamtor2 (mouse) mapping to 3 F1.

## PRODUCT

MAPBPIP 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 MAPBPIP shRNA Plasmid (m): sc-77328-SH and MAPBPIP shRNA (m) Lentiviral Particles: sc-77328-V as alternate gene silencing products.

For independent verification of MAPBPIP (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-77328A, sc-77328B and sc-77328C.

## 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

MAPBPIP siRNA (m) is recommended for the inhibition of MAPBPIP 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MAPBPIP gene expression knockdown using RT-PCR Primer: MAPBPIP (m)-PR: sc-77328-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.

## PROTOCOLS

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