

# Paip1 siRNA (m): sc-40801

## BACKGROUND

Paip, for PABP-interacting protein, binds to the polyadenylate-binding protein (PABP), which in yeasts and plants has been shown to bind to the eukaryotic initiation factor component eIF4G. There are two Paip proteins called Paip1 and Paip2. Paip1 stimulates translation, and Paip2, which competes with Paip1 for binding to PABP, represses translation. Paip2 decreases the affinity of PABP for polyadenylate RNA, and disrupts the repeating structure of poly(A) ribonucleoprotein. Paip1 contains an eIF4A-binding region and a proline-rich N terminus. Overexpression of Paip1 in COS-7 cells stimulates translation, perhaps by providing a physical link between the mRNA termini. The human Paip1 gene encodes a 480 amino acid protein.

## REFERENCES

1. Craig, A.W., et al. 1998. Interaction of polyadenylate-binding protein with the eIF4G homologue Paip enhances translation. *Nature* 392: 520-523.
2. Gray, N.K., et al. 2000. Multiple portions of poly(A)-binding protein stimulate translation *in vivo*. *EMBO J.* 19: 4723-4733.
3. Grosset, C., et al. 2000. A mechanism for translationally coupled mRNA turnover: interaction between the poly(A) tail and a c-Fos RNA coding determinant via a protein complex. *Cell* 103: 29-40.
4. Kozlov, G., et al. 2001. Structure and function of the C-terminal PABC domain of human poly(A)-binding protein. *Proc. Natl. Acad. Sci. USA* 98: 4409-4413.
5. Khaleghpour, K., et al. 2001. Dual interactions of the translational repressor Paip2 with poly(A) binding protein. *Mol. Cell. Biol.* 21: 5200-5213.
6. Gouyon, F., et al. 2003. Fructose modulates Glut5 mRNA stability in differentiated Caco-2 cells: role of cAMP-signalling pathway and PABP (polyadenylate-binding protein)-interacting protein (Paip) 2. *Biochem. J.* 375: 167-174.
7. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 605184. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
8. LocusLink Report (LocusID: 10605). <http://www.ncbi.nlm.nih.gov/LocusLink/>

## CHROMOSOMAL LOCATION

Genetic locus: Paip1 (mouse) mapping to 13 D2.3.

## PRODUCT

Paip1 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 Paip1 shRNA Plasmid (m): sc-40801-SH and Paip1 shRNA (m) Lentiviral Particles: sc-40801-V as alternate gene silencing products.

For independent verification of Paip1 (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-40801A, sc-40801B and sc-40801C.

## 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

Paip1 siRNA (m) is recommended for the inhibition of Paip1 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

Paip1 (E-7): sc-365687 is recommended as a control antibody for monitoring of Paip1 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 Paip1 gene expression knockdown using RT-PCR Primer: Paip1 (m)-PR: sc-40801-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.