

Paip2b siRNA (h): sc-156100

BACKGROUND

Various PABP-interacting proteins bind to and regulate the activity of polyadenylate-binding protein (PABP), an essential, well-conserved, multi-functional protein involved in translational initiation, mRNA biogenesis and degradation. PABP enhances translation by circularizing mRNA through its interaction with the translation initiation factor eIF4G and mRNA's poly(A) tail. PABP-interacting proteins include PaiP1, a translational stimulator, and Paip2a and Paip2b, translational inhibitors. Paip1 is thought to act as a translational activator in 5' cap-dependent translation by interacting with PABP and the initiation factors eIF4A and eIF3, whereas Paip2 decreases the affinity of PABP for polyadenylate RNA, and disrupts the repeating structure of poly(A) ribonucleoprotein. Paip2b (poly(A) binding protein interacting protein 2B) is a 123 amino acid protein that may be involved in regulating PABP activity.

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. 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.
4. Khaleghpour, K., et al. 2001. Dual interactions of the translational repressor Paip2 with poly(A) binding protein. *Mol. Cell. Biol.* 21: 5200-5213.
5. Khaleghpour, K., et al. 2001. Translational repression by a novel partner of human poly(A) binding protein, Paip2. *Mol. Cell. Biol.* 7: 205-216.
6. Gouyon, F., et al. 2003. Fructose modulates Glut5 mRNA stability in differentiated Caco-2 cells: role of cAMP-signalling pathway and PABP (polyadenylated-binding protein)-interacting protein (Paip) 2. *Biochem. J.* 375: 167-174.
7. Derry, M.C., et al. 2006. Regulation of poly(A)-binding protein through PABP-interacting proteins. *Cold Spring Harb. Symp. Quant. Biol.* 71: 537-543.

CHROMOSOMAL LOCATION

Genetic locus: PAIP2B (human) mapping to 2p13.3.

PRODUCT

Paip2b siRNA (h) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Paip2b shRNA Plasmid (h): sc-156100-SH and Paip2b shRNA (h) Lentiviral Particles: sc-156100-V as alternate gene silencing products.

For independent verification of Paip2b (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-156100A, sc-156100B and sc-156100C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Paip2b siRNA (h) is recommended for the inhibition of Paip2b 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 μ M in 66 μ 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

Paip2b (E-9): sc-514137 is recommended as a control antibody for monitoring of Paip2b 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 κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Paip2b gene expression knockdown using RT-PCR Primer: Paip2b (h)-PR: sc-156100-PR (20 μ 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 for detailed protocols and support products.