

Paip2b (m2): 293T Lysate: sc-122360

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., Haghighat, A., Yu, A.T. and Sonenberg, N. 1998. Interaction of polyadenylate-binding protein with the eIF4G homologue Paip enhances translation. *Nature* 392: 520-523.
2. Gray, N.K., Collier, J.M., Dickson, K.S. and Wickens, M. 2000. Multiple portions of poly(A)-binding protein stimulate translation *in vivo*. *EMBO J.* 19: 4723-4733.
3. Kozlov, G., Trempe, J.F., Khaleghpour, K., Kahvejian, A., Ekiel, I. and Gehring, K. 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., Svitkin, Y.V., Craig, A.W., DeMaria, C.T., Deo, R.C., Burley, S.K. and Sonenberg, N. 2001. Translational repression by a novel partner of human poly(A) binding protein, Paip2. *Mol. Cell. Biol.* 7: 205-216.
5. Khaleghpour, K., Kahvejian, A., De Crescenzo, G., Roy, G., Svitkin, Y.V., Imataka, H., O'Connor-McCourt, M. and Sonenberg, N. 2001. Dual interactions of the translational repressor Paip2 with poly(A) binding protein. *Mol. Cell. Biol.* 21: 5200-5213.
6. Gouyon, F., Onesto, C., Dalet, V., Pages, G., Leturque, A. and Brot-Laroche, E. 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., Yanagiya, A., Martineau, Y. and Sonenberg, N. 2006. Regulation of poly(A)-binding protein through PABP-interacting proteins. *Cold Spring Harb. Symp. Quant. Biol.* 71: 537-543.
8. Berlanga, J.J., Baass, A. and Sonenberg, N. 2006. Regulation of poly(A) binding protein function in translation: characterization of the Paip2 homolog, Paip2B. *RNA* 12: 1556-1568.
9. Kanaan, A.S., Frank, F., Maedler-Kron, C., Verma, K., Sonenberg, N. and Nagar, B. 2009. Crystallization and preliminary X-ray diffraction analysis of the middle domain of Paip1. *Acta Crystallogr. Sect. F Struct. Biol. Cryst. Commun.* 65: 1060-1064.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

CHROMOSOMAL LOCATION

Genetic locus: Paip2b (mouse) mapping to 18 B2.

PRODUCT

Paip2b (m2): 293T Lysate represents a lysate of mouse Paip2b transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

Paip2b (m2): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Paip2b antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

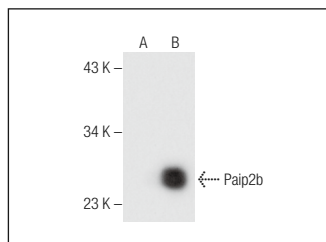
Paip2 (A-2): sc-376970 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse Paip2b expression in Paip2b transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:

1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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.

DATA



Paip2 (A-2): sc-376970. Western blot analysis of Paip2b expression in non-transfected: sc-117752 (A) and mouse Paip2b transfected: sc-122360 (B) 293T whole cell lysates.

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.