SANTA CRUZ BIOTECHNOLOGY, INC.

PABPC3 siRNA (h): sc-106346

BACKGROUND

PABPC3 (poly(A) binding protein, cytoplasmic 3), also known as PABP3, tPABP or PABPL3, is a 631 amino acid cytoplasmic protein that binds the poly(A) tail at the 3' end of most eukaryotic mRNA. PABPC3 may also bind other cytoplasmic RNA sequences *in vivo* and is thought to regulate various steps during mRNA metabolism. Belonging to the polyadenylate-binding protein type-1 family, PABPC3 contains a PABC domain and four RRM (RNA recognition motif) domains- each of which contains two ribonucleoprotein consensus motifs- and shares 92.5% sequence identity with PABP (PABPC1). PABP is required for the shortening of the 3' poly(A) tail of eukaryotic mRNA and translation initiation. The interaction between PABP and eukaryotic translation initiation factor 4G (eIF4G) facilitates translational initiation of polyadenylated mRNAs.

REFERENCES

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2. Féral, C., Mattéi, M.G., Pawlak, A. and Guellaën, G. 1999. Chromosomal localization of three human poly(A)-binding protein genes and four related pseudogenes. Hum. Genet. 105: 347-353.
3. Féral, C., Guellaën, G. and Pawlak, A. 2001. Human testis expresses a specific poly(A)-binding protein. Nucleic Acids Res. 29: 1872-1883.
4. Kuyumcu-Martinez, N.M., Joachims, M. and Lloyd, R.E. 2002. Efficient cleavage of ribosome-associated poly(A)-binding protein by enterovirus 3C protease. J. Virol. 76: 2062-2074.
5. Osawa, M., Hosoda, N., Nakanishi, T., Uchida, N., Kimura, T., Imai, S., Machiyama, A., Katada, T., Hoshino, S. and Shimada, I. 2012. Biological role of the two overlapping poly(A)-binding protein interacting motifs 2 (PAM2) of eukaryotic releasing factor eRF3 in mRNA decay. RNA 18: 1957-1967.
6. Huang, K.L., Chadee, A.B., Chen, C.Y., Zhang, Y. and Shyu, A.B. 2013. Phosphorylation at intrinsically disordered regions of PAM2 motif-containing proteins modulates their interactions with PABPC1 and influences mRNA fate. RNA 19: 295-305.

CHROMOSOMAL LOCATION

Genetic locus: PABPC3 (human) mapping to 13q12.13.

PRODUCT

PABPC3 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PABPC3 shRNA Plasmid (h): sc-106346-SH and PABPC3 shRNA (h) Lentiviral Particles: sc-106346-V as alternate gene silencing products.

For independent verification of PABPC3 (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-106346A, sc-106346B and sc-106346C.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

PABPC3 siRNA (h) is recommended for the inhibition of PABPC3 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 µM in 66 µl. 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

PABP (A-4): sc-166381 is recommended as a control antibody for monitoring of PABPC3 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-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. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 PABPC3 gene expression knockdown using RT-PCR Primer: PABPC3 (h)-PR: sc-106346-PR (20 µl). 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.