SANTA CRUZ BIOTECHNOLOGY, INC.

hnRNP A/B siRNA (h): sc-75271

BACKGROUND

Heterogeneous nuclear ribonucleoproteins (hnRNPs) constitute a set of polypeptides that contribute to pre-mRNA processing and transport, and also bind heterogeneous nuclear RNA (hnRNA), which are the transcripts produced by RNA polymerase II. The hnRNPs are associated with pre-mRNAs in the nucleus and appear to influence pre-mRNA processing and other aspects of mRNA metabolism and transport. hnRNP A/B (heterogeneous nuclear ribonucleoprotein A/B), also known as HNRNPAB, ABBP1 or HNRPAB, is a 332 amino acid nuclear protein that is ubiquitously expressed. hnRNP A/B binds single-stranded RNA and has a high affinity for G-rich and U-rich regions of hnRNA. hnRNP A/B contains two RRM (RNA recognition motif) domains and interacts with APOBEC1 (apolipoprotein B mRNA editing enzyme complex-1).

REFERENCES

1. Khan, F.A., et al. 1991. Cloning and sequence analysis of a human type A/B hnRNP protein. FEBS Lett. 290: 159-161.
2. Lau, P.P., et al. 1997. Cloning of an Apobec-1-binding protein that also interacts with apolipoprotein B mRNA and evidence for its involvement in RNA editing. J. Biol. Chem. 272: 1452-1455.
3. Plomaritoglou, A., et al. 2000. Molecular characterization of a murine, major A/B type hnRNP protein: mBx. Biochim. Biophys. Acta 1490: 54-62.
4. Fomenkov, A., et al. 2003. P63 α mutations lead to aberrant splicing of keratinocyte growth factor receptor in the Hay-Wells syndrome. J. Biol. Chem. 278: 23906-23914.

CHROMOSOMAL LOCATION

Genetic locus: HNRNPAB (human) mapping to 5q35.3.

PRODUCT

hnRNP A/B 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 hnRNP A/B shRNA Plasmid (h): sc-75271-SH and hnRNP A/B shRNA (h) Lentiviral Particles: sc-75271-V as alternate gene silencing products.

For independent verification of hnRNP A/B (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-75271A, sc-75271B and sc-75271C.

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

hnRNP A/B siRNA (h) is recommended for the inhibition of hnRNP A/B 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

hnRNP A/B (G-10): sc-376411 is recommended as a control antibody for monitoring of hnRNP A/B 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 hnRNP A/B gene expression knockdown using RT-PCR Primer: hnRNP A/B (h)-PR: sc-75271-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Han, X., et al. 2020. p300-catalyzed lysine crotonylation promotes the proliferation, invasion, and migration of HeLa cells via heterogeneous nuclear ribonucleoprotein A1. Anal. Cell. Pathol. 2020: 5632342.

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.