SANTA CRUZ BIOTECHNOLOGY, INC.

BANP siRNA (h): sc-72607

BACKGROUND

BANP (BTG3 associated nuclear protein), also known as BEND1, SMARBP1 or SMAR1, is a 519 amino acid protein that localizes to the nucleus and belongs to the BANP/SMAR1 family. Interacting with CDP and p53, BANP functions to control V(D)J recombination during T cell development, specifically by binding to a scaffold/matrix DNA attachment region and repressing the enhancer function of TCRβ (T cell receptor β). Additionally, BANP promotes p53 serine phosphorylation, resulting in the subsequent nuclear accumulation of p53 and, ultimately, cell cycle arrest. BANP is downregulated in breast cancer cells, suggesting a role in tumor suppression. Three isoforms of BANP exist due to alternative splicing events.

REFERENCES

1. Birot, A., et al. 2000. Identification and molecular analysis of BANP. Gene 253: 189-196.
2. Chattopadhyay, S., et al. 2000. SMAR1, a novel, alternatively spliced gene product, binds the scaffold/matrix-associated region at the T cell receptor β locus. Genomics 68: 93-96.
3. Kaul, R., et al. 2003. Direct interaction with and activation of p53 by SMAR1 retards cell-cycle progression at G_2/M phase and delays tumor growth in mice. Int. J. Cancer 103: 606-615.
4. Kaul-Ghanekar, R., et al. 2004. SMAR1 and Cux/CDP modulate chromatin and act as negative regulators of the TCRβ enhancer (Eβ). Nucleic Acids Res. 32: 4862-4875.
5. Kaul-Ghanekar, R., et al. 2005. Abnormal V(D)J recombination of T cell receptor β locus in SMAR1 transgenic mice. J. Biol. Chem. 280: 9450-9459.
6. Jalota, A., et al. 2005. Tumor suppressor SMAR1 activates and stabilizes p53 through its arginine-serine-rich motif. J. Biol. Chem. 280: 16019-16029.

CHROMOSOMAL LOCATION

Genetic locus: BANP (human) mapping to 16q24.2.

PRODUCT

BANP 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 BANP shRNA Plasmid (h): sc-72607-SH and BANP shRNA (h) Lentiviral Particles: sc-72607-V as alternate gene silencing products.

For independent verification of BANP (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-72607A, sc-72607B and sc-72607C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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

BANP siRNA (h) is recommended for the inhibition of BANP 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

BANP (1524CT337.6.32): sc-517314 is recommended as a control antibody for monitoring of BANP 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 BANP gene expression knockdown using RT-PCR Primer: BANP (h)-PR: sc-72607-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.