SANTA CRUZ BIOTECHNOLOGY, INC.

# ANP32A siRNA (m): sc-40697

## BACKGROUND

Protein phosphatase 2A PP2A is a major mammalian protein serine/threonine phosphatase that regulates diverse cellular processes. ANP32A, also known as Inhibitor 1 of PP2A (I1PP2A), and inhibitor 2 of PP2A (I2PP2A), which share large sequence similarity, are heat-stable protein inhibitors of the cellular phosphatase activity of PP2A. ANP32A and I2PP2A were initially characterized as putative HLA class II associated proteins Phap I and Phap II. These inhibitor proteins act noncompetitively to selectively inhibit PP2A, but do not affect the phosphatase activity of the related proteins PP1, PP2B and PP2C. The ANP32A protein is localized to both the cytoplasm and the nucleus. In contrast, I2PP2A is located predominantly in the nucleus and is highly expressed in Wilms' tumor cells. Transient expression of I2PP2A in HEK-293 cells leads to an increase in the DNA binding activity of the proto-oncogene c-Jun.

## REFERENCES


1. Guo, H. and Damuni, Z. 1993. Autophosphorylation-activated protein kinase phosphorylates and inactivates protein phosphatase 2A. Proc. Natl. Acad. Sci. USA 90: 2500-2504.
2. Damuni, Z., et al. 1994 Autophosphorylation-activated protein kinase inactivates the protein tyrosine phosphatase activity of protein phosphatase 2A. FEBS Lett. 352: 311-314.
3. Li, M., et al. 1995. Purification and characterization of two potent heat-stable protein inhibitors of protein phosphatase 2A from bovine kidney. Biochemistry 34: 1988-1996.
4. Li, M., et al. 1996. Molecular identification of I1PP2A, a novel potent heat-stable inhibitor protein of protein phosphatase 2A. Biochemistry 35: 6998-7002.
5. Li, M., et al. 1996. The myeloid leukemia-associated protein SET is a potent inhibitor of protein phosphatase 2A. J. Biol. Chem. 271: 11059-11062.
6. Li, M. and Damuni, Z. 1998. I1PP2A and I2PP2A. Two potent protein phosphatase 2A-specific inhibitor proteins. Methods Mol. Biol. 93: 59-66.
7. Al-Murrani, S.W., et al. 1999. Expression of I2PP2A, an inhibitor of protein phosphatase 2A, induces c-Jun and AP-1 activity. Biochem. J. 341: 293-298.
8. Carlson, S.G., et al. 1998. Expression of SET, an inhibitor of protein phosphatase 2A, in renal development and Wilms' tumor. J. Am. Soc. Nephrol. 9: 1873-1880.


## CHROMOSOMAL LOCATION

Genetic locus: Anp32a (mouse) mapping to 9 B.

## 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.

## PRODUCT

ANP32A siRNA (m) 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 ANP32A shRNA Plasmid (m): sc-40697-SH and ANP32A shRNA (m) Lentiviral Particles: sc-40697-V as alternate gene silencing products.

For independent verification of ANP32A (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-40697A, sc-40697B and sc-40697C.

## 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

ANP32A siRNA (m) is recommended for the inhibition of ANP32A expression in mouse 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ANP32A gene expression knockdown using RT-PCR Primer: ANP32A (m)-PR: sc-40697-PR (20 µl, 363 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.