SANTA CRUZ BIOTECHNOLOGY, INC.

# Purα siRNA (h): sc-91623

## BACKGROUND

The Pur protein family consists of four members: Purα, Purβ, and two isoforms of Purγ. Purα, a protein strongly conserved throughout evolution, is a single-stranded (ss) DNA- and RNA-binding protein that contains three conserved signature repeats, which have an affinity for guanosine-rich motifs, specifically the (GGN)n sequence, PUR element. The ubiquitously expressed Purα protein is involved in many cellular processes, including transcriptional regulation, the cell cycle, oncogenic transformation and post-natal brain development. Purα binds HIV-1 TAR RNA and activates HIV-1 transcription. Purα also appears to play a role in the progression of Alzheimer's disease, prostate cancer, fragile X-associated tremor/ataxia syndrome and JC virus. Targeting of Purα may potentially lead to promising therapeutic approaches for various diseases.

## REFERENCES


1. Haas, S., et al. 1995. A 39-kD DNA-binding protein from mouse brain stimulates transcription of myelin basic protein gene in oligodendrocytic cells. J. Cell Biol. 130: 1171-1179.
2. Chepenik, L.G., et al. 1998. The single-stranded DNA binding protein, Purα, binds HIV-1 TAR RNA and activates HIV-1 transcription. Gene 210: 37-44.
3. Johnson, E.M. 2003. The Pur protein family: clues to function from recent studies on cancer and AIDS. Anticancer Res. 23: 2093-2100.
4. Zeng, L.H., et al. 2004. Characterization of novel Pur α-binding proteins in mouse brain. Neurochem. Int. 45: 753-758.
5. Wortman, M.J., et al. 2005. Mechanism of DNA binding and localized strand separation by Pur α and comparison with Pur family member, Purβ. Biochim. Biophys. Acta 1743: 64-78.
6. Darbinian, N., et al. 2006. Regulation of the Purα promoter by E2F-1. J. Cell. Biochem. 99: 1052-1063.
7. Jin, P., et al. 2007. Purα binds to rCGG repeats and modulates repeat-mediated neurodegeneration in a *Drosophila* model of fragile X tremor/ataxia syndrome. Neuron 55: 556-564.


## CHROMOSOMAL LOCATION

Genetic locus: PURA (human) mapping to 5q31.2.

## PRODUCT

Purα 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 Purα shRNA Plasmid (h): sc-91623-SH and Purα shRNA (h) Lentiviral Particles: sc-91623-V as alternate gene silencing products.

For independent verification of Purα (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-91623A, sc-91623B and sc-91623C.

## 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

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

Purα (80-L): sc-130397 is recommended as a control antibody for monitoring of Purα 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 Purα gene expression knockdown using RT-PCR Primer: Purα (h)-PR: sc-91623-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.