

Pur α siRNA (m): sc-152591

BACKGROUND

The Pur protein family consists of four members: Pur α , Pur β and two isoforms of Pur γ . Pur α , 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 Pur α protein is involved in many cellular processes, including transcriptional regulation, the cell cycle, oncogenic transformation and postnatal brain development. Pur α binds HIV-1 TAR RNA and activates HIV-1 transcription. Pur α 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 Pur α may potentially lead to promising therapeutic approaches for various diseases.

REFERENCES

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2. Chepenik, L.G., Tretiakova, A.P., Krachmarov, C.P., Johnson, E.M. and Khalili, K. 1998. The single-stranded DNA binding protein, Pur α , 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., Fujimoto, T., Kumamaru, E., Irie, Y., Miki, N. and Kuo, C.H. 2004. Characterization of novel Pur α -binding proteins in mouse brain. *Neurochem. Int.* 45: 753-758.
5. Wortman, M.J., Johnson, E.M. and Bergemann, A.D. 2005. Mechanism of DNA binding and localized strand separation by Pur α and comparison with Pur family member, Pur β . *Biochim. Biophys. Acta* 1743: 64-78.

CHROMOSOMAL LOCATION

Genetic locus: Pura (mouse) mapping to 18 B2.

PRODUCT

Pur α siRNA (m) is a pool of 2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Pur α shRNA Plasmid (m): sc-152591-SH and Pur α shRNA (m) Lentiviral Particles: sc-152591-V as alternate gene silencing products.

For independent verification of Pur α (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-152591A and sc-152591B.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Pur α siRNA (m) is recommended for the inhibition of Pur α 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 μ M in 66 μ l. 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

Pur α (80-L): sc-130397 is recommended as a control antibody for monitoring of Pur α 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 Pur α gene expression knockdown using RT-PCR Primer: Pur α (m)-PR: sc-152591-PR (20 μ l, 581 bp). 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.