

ARP-1 siRNA (h): sc-38818

BACKGROUND

COUP (chicken ovalbumin upstream promoter) transcription factors have been cloned in several species and identified as orphan members of the steroid/thyroid hormone receptor superfamily. COUP-TFI (also designated COUP or EAR-3) and ARP-1 (also designated COUP-TFII) exhibit highly regulated and overlapping expression in most tissues. COUP-TFs are highly expressed in the developing and central nervous system, suggesting that these factors may be important in neural development and differentiation. COUP-TFs can compete for binding to response elements which are common to other members of this family, including RAR, RXR, PPAR, HNF-4, VDR and TR. They have been shown to act as negative regulators as well as initiators of transcription.

REFERENCES

1. Miyajima, N., et al. 1988. Identification of two novel members of ErbA superfamily by molecular cloning: the gene products of the two are highly related to each other. *Nucleic Acids Res.* 16: 11057-11074.
2. Wang, L.H., et al. 1989. COUP transcription factor is a member of the steroid receptor superfamily. *Nature* 340: 163-166.
3. Ladias, J.A., et al. 1991. Regulation of the apolipoprotein AI gene by ARP-1, a novel member of the steroid receptor superfamily. *Science* 251: 561-565.
4. Umesono, K., et al. 1991. Direct repeats as selective response elements for the thyroid hormone, retinoic acid and vitamin D₃ receptors. *Cell* 65: 1255-1266.

CHROMOSOMAL LOCATION

Genetic locus: NR2F2 (human) mapping to 15q26.2.

PRODUCT

ARP-1 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 ARP-1 shRNA Plasmid (h): sc-38818-SH and ARP-1 shRNA (h) Lentiviral Particles: sc-38818-V as alternate gene silencing products.

For independent verification of ARP-1 (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-38818A, sc-38818B and sc-38818C.

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

ARP-1 siRNA (h) is recommended for the inhibition of ARP-1 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

ARP-1 (E-11): sc-271940 is recommended as a control antibody for monitoring of ARP-1 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-IgGλ. BP-HRP: sc-516132 or m-IgGλ. BP-HRP (Cruz Marker): sc-516132-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-IgGλ. BP-FITC: sc-516185 or m-IgGλ. BP-PE: sc-516186 (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 ARP-1 gene expression knockdown using RT-PCR Primer: ARP-1 (h)-PR: sc-38818-PR (20 µl, 510 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Wu, X., et al. 2011. COUP-TFII switches responses of venous endothelium to atherosclerotic factors through controlling the profile of various inherent genes expression. *J. Cell. Biochem.* 112: 256-264.
2. Ma, L., et al. 2022. NR2F2 regulates cell proliferation and immunomodulation in Whartons' Jelly stem cells. *Genes* 13: 1458.

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.