SANTA CRUZ BIOTECHNOLOGY, INC.

ARF7 siRNA (h): sc-78549

BACKGROUND

The ADP-ribosylation factor (ARF) protein family are structurally and functionally conserved members of the Ras superfamily of regulatory GTP-binding proteins. ARFs influence vesicle trafficking and signal transduction in eukaryotic cells. ARF-dependent regulatory mechanisms include the coordination of spectrin interactions with Golgi membranes and the association of Actin to the Golgi via Rho family-dependent G-protein localization and WASP/Arp2/3 complexes. Additionally, ARFs play a central role in the maintenance of organelle integrity, assembly of coat proteins and activation of phospholipase D (PC-PLD). ARF7 (ADP-ribosylation factor 7), also known as ARL14 (ADP-ribosylation factor-like protein 14), is a 192 amino acid member of the ARF family and may play a role in signaling events throughout the cell.

REFERENCES

1. Day, G.J., et al. 1998. Distinct subclasses of small GTPases interact with guanine nucleotide exchange factors in a similar manner. Mol. Cell. Biol. 18: 7444-7454.
2. Colicelli, J. 2004. Human RAS superfamily proteins and related GTPases. Sci. STKE 2004: RE13.
3. Imami, K., et al. 2008. Automated phosphoproteome analysis for cultured cancer cells by two-dimensional nanoLC-MS using a calcined titania/C18 biphasic column. Anal. Sci. 24: 161-166.
4. Donaldson, J.G. 2008. Arfs and membrane lipids: sensing, generating and responding to membrane curvature. Biochem. J. 414: e1-e2.
5. Lundmark, R., et al. 2008. Arf family GTP loading is activated by, and generates, positive membrane curvature. Biochem. J. 414: 189-194.
6. Krauss, M., et al. 2008. Arf1-GTP-induced tubule formation suggests a function of Arf family proteins in curvature acquisition at sites of vesicle budding. J. Biol. Chem. 283: 27717-27723.

CHROMOSOMAL LOCATION

Genetic locus: ARL14 (human) mapping to 3q25.33.

PRODUCT

ARF7 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 ARF7 shRNA Plasmid (h): sc-78549-SH and ARF7 shRNA (h) Lentiviral Particles: sc-78549-V as alternate gene silencing products.

For independent verification of ARF7 (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-78549A, sc-78549B and sc-78549C.

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

ARF7 siRNA (h) is recommended for the inhibition of ARF7 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ARF7 gene expression knockdown using RT-PCR Primer: ARF7 (h)-PR: sc-78549-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.