SANTA CRUZ BIOTECHNOLOGY, INC.

BART1 siRNA (h): sc-93111

BACKGROUND

ADP-ribosylation factors (ARFs) are important in eukaryotic vesicular trafficking pathways and they play an essential role in the activation of phospholipase D (PC-PLD). ARL2 (ADP-ribosylation factor-like protein 2) functions as a component of a secretory pathway that is involved in the calcium-dependent release of acetylcholine. Additionally, ARL2 plays a role in the folding of tubule proteins, thereby playing an important role in microtubule dynamics and cell cycle progression. BART1 (Binder of ARL2 protein 1), also known as ARL2BP (ADP-ribosylation factor-like protein 2-binding protein), is a 163 amino acid protein that interacts with GTP-bound ARL2 complexes and therefore may play a role in modulating ARL2 activity. Though predominantly cytosolic, BART1 can enter the mitochondria and bind the adenine nucleotide transporter when bound to ARL2. There are two isoforms of BART1 that are produced as a result of alternative splicing events.

REFERENCES

1. Sharer, J.D., et al. 1999. The ARF-like 2 (ARL2)-binding protein, BART. Purification, cloning, and initial characterization. J. Biol. Chem. 274: 27553-27561.
2. Van Valkenburgh, H., et al. 2001. ADP-ribosylation factors (ARFs) and ARF-like 1 (ARL1) have both specific and shared effectors: characterizing ARL1-binding proteins. J. Biol. Chem. 276: 22826-22837.
3. Sharer, J.D., et al. 2002. ARL2 and BART enter mitochondria and bind the adenine nucleotide transporter. Mol. Biol. Cell 13: 71-83.
4. Zhou, C., et al. 2006. Arl2 and Arl3 regulate different microtubule-dependent processes. Mol. Biol. Cell 17: 2476-2487.
5. Bailey, L.K., et al. 2009. ^{1}H, ^{13}C and ^{15}N resonance assignments for Binder of Arl2, BART. Biomol. NMR Assign. 3: 33-36.
6. Zhang, T., et al. 2009. Crystal structure of the ARL2-GTP-BART complex reveals a novel recognition and binding mode of small GTPase with effector. Structure 17: 602-610.

CHROMOSOMAL LOCATION

Genetic locus: ARL2BP (human) mapping to 16q13.

PRODUCT

BART1 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. Suit-able for 50-100 transfections. Also see BART1 shRNA Plasmid (h): sc-93111-SH and BART1 shRNA (h) Lentiviral Particles: sc-93111-V as alternate gene silencing products.

For independent verification of BART1 (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-93111A, sc-93111B and sc-93111C.

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

BART1 siRNA (h) is recommended for the inhibition of BART1 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

BART1 (6): sc-136389 is recommended as a control antibody for monitoring of BART1 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 BART1 gene expression knockdown using RT-PCR Primer: BART1 (h)-PR: sc-93111-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.