

PARD3A siRNA (h): sc-76048

BACKGROUND

Cellular asymmetry is critical for the development of multicellular organisms. PARD (partitioning-defective) proteins play important roles in asymmetric cell division and polarized growth. PARD3A (partitioning-defective 3), also known as Baz, ASIP (atypical PKC isotype-specific-interacting protein), PAR3, PARD3, PAR3 α , Bazooka, SE2-5T2, SE2-5L16 or SE2-5LT1, is a 1,356 amino acid protein that contains three PDZ domains and belongs to the PAR3 family of proteins. Expressed in a wide variety of tissues, PARD3A colocalizes with PARD6A/B and PKC ϵ at epithelial tight junctions and is believed to function as an adapter protein with an important role in the formation of normal tight junctions at epithelial cell-cell contacts. Due to alternative splicing events, PARD3A exists in at least ten isoforms, namely isoform A, isoform B, isoform C, isoform D, isoform E, isoform F, isoform Lb, isoform Sa, isoform Sb and isoform 10.

REFERENCES

1. Joberty, G., et al. 2000. The cell-polarity protein PAR6 links PAR3 and atypical protein kinase C to Cdc42. *Nat. Cell Biol.* 2: 531-539.
2. Suzuki, A., et al. 2001. Atypical protein kinase C is involved in the evolutionarily conserved PAR protein complex and plays a critical role in establishing epithelia-specific junctional structures. *J. Cell Biol.* 152: 1183-1196.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606745. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Shi, S.H., et al. 2003. Hippocampal neuronal polarity specified by spatially localized mPAR3/mPAR6 and PI 3-kinase activity. *Cell* 112: 63-75.

CHROMOSOMAL LOCATION

Genetic locus: PARD3 (human) mapping to 10p11.21.

PRODUCT

PARD3A 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PARD3A shRNA Plasmid (h): sc-76048-SH and PARD3A shRNA (h) Lentiviral Particles: sc-76048-V as alternate gene silencing products.

For independent verification of PARD3A (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-76048A, sc-76048B and sc-76048C.

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

PARD3A siRNA (h) is recommended for the inhibition of PARD3A 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 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

PARD3A (4G5): sc-293213 is recommended as a control antibody for monitoring of PARD3A 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 PARD3A gene expression knockdown using RT-PCR Primer: PARD3A (h)-PR: sc-76048-PR (20 μ l, 449 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Dugay, F., et al. 2014. Overexpression of the polarity protein PAR-3 in clear cell renal cell carcinoma is associated with poor prognosis. *Int. J. Cancer* 134: 2051-2060.

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.