SANTA CRUZ BIOTECHNOLOGY, INC.

PARD3B siRNA (h): sc-94928

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. PARD3B (Par-3 partitioning defective 3 homolog B), also known as PAR3B, PAR3β, PAR3L, PAR3LC or Par3Lb, is a 1,205 amino acid putative adapter protein of the endomembrane system that participates in cell polarization and asymmetrical cell division. Likely involved in epithelial tight junction formation, PARD3B localizes to the cell junction where it colocalizes with ZO-1 (zona occludens protein 1). PARD3B is expressed in a variety of tissues with highest expression found in skeletal muscle, lung and kidney, and moderate levels found in pancreas, brain, heart, liver and placenta. Existing as five alternatively spliced isoforms, PARD3B contains three PDZ (DHR) domains and is encoded by a gene located on human chromosome 2q33.2.

REFERENCES

1. Hadano, S., et al. 2001. A gene encoding a putative GTPase regulator is mutated in familial amyotrophic lateral sclerosis 2. Nat. Genet. 29: 166-173.
2. Kohjima, M., et al. 2002. PAR3β, a novel homologue of the cell polarity protein PAR3, localizes to tight junctions. Biochem. Biophys. Res. Commun. 299: 641-646.
3. Gao, L., et al. 2002. Multiple splice variants of Par3 and of a novel related gene, Par3L, produce proteins with different binding properties. Gene 294: 99-107.
4. Warner, D.R., et al. 2003. Identification of three novel Smad binding proteins involved in cell polarity. FEBS Lett. 539: 167-173.
5. Jin, J., et al. 2004. Proteomic, functional, and domain-based analysis of *in vivo* 14-3-3 binding proteins involved in cytoskeletal regulation and cellular organization. Curr. Biol. 14: 1436-1450.
6. Izaki, T., et al. 2006. Two forms of human Inscuteable-related protein that links Par3 to the Pins homologues LGN and AGS3. Biochem. Biophys. Res. Commun. 341: 1001-1006.

CHROMOSOMAL LOCATION

Genetic locus: PARD3B (human) mapping to 2q33.3.

PRODUCT

PARD3B 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 PARD3B shRNA Plasmid (h): sc-94928-SH and PARD3B shRNA (h) Lentiviral Particles: sc-94928-V as alternate gene silencing products.

For independent verification of PARD3B (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-94928A, sc-94928B and sc-94928C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

PARD3B siRNA (h) is recommended for the inhibition of PARD3B 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

PARD3B (E-9): sc-398761 is recommended as a control antibody for monitoring of PARD3B 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 PARD3B gene expression knockdown using RT-PCR Primer: PARD3B (h)-PR: sc-94928-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.