SANTA CRUZ BIOTECHNOLOGY, INC.

PRKCDBP siRNA (h): sc-96852

BACKGROUND

PRKCDBP (protein kinase C, δ binding protein), also known as SRBC, HSRBC or cavin-3, is a 261 amino acid protein belonging to the STICK (substrates that interact with C-kinase) superfamily of PKC-binding proteins that is strongly expressed in mammary and epithelial cells. PRKCDBP interacts with PRKCD and phosphatidylserine. It is suggested that phosphatidylserine may stabilize the binding between PKC and PKC-binding partners by forming a bridge. Considered a novel tumor suppressor, PRKCDBP is down-regulated in breast and lung cancer cell lines and is inactivated by methylation. PRKCDBP may have an immune potentiation function and may act as a caveolin adapter that regulates caveolae function. NK-1R (neurokinin 1 receptor), a G protein-coupled receptor found in human glioblastomas is known to stimulate the phosphorylation of PRKCDBP.

REFERENCES

1. Izumi, Y., et al. 1997. A protein kinase Cδ-binding protein SRBC whose expression is induced by serum starvation. J. Biol. Chem. 272: 7381-7389.
2. Xu, X.L., et al. 2001. Inactivation of human SRBC, located within the 11p15.5-p15.4 tumor suppressor region, in breast and lung cancers. Cancer Res. 61: 7943-7949.
3. Bhattacharjee, M., et al. 2004. Differential regulation of the protein tyrosine kinase activity following interleukin-2 (IL-2), interferron γ (IFN-γ) and SRBC administration in brain tumor-induced conditions: SRBC acting as a dual potentiator in regulating the cytokine profile. Cancer Biol. Ther. 3: 755-760.
4. Yamaguchi, K., et al. 2005. Signal transduction through substance P receptor in human glioblastoma cells: roles for Src and PKCδ. Cancer Chemother. Pharmacol. 56: 585-593.
5. Zöchbauer-Müller, S., et al. 2005. Expression of the candidate tumor suppressor gene hSRBC is frequently lost in primary lung cancers with and without DNA methylation. Oncogene 24: 6249-6255.
6. Fukasawa, M., et al. 2006. Microarray analysis of promoter methylation in lung cancers. J. Hum. Genet. 51: 368-374.

CHROMOSOMAL LOCATION

Genetic locus: CAVIN3 (human) mapping to 11p15.4.

PRODUCT

PRKCDBP 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 PRKCDBP shRNA Plasmid (h): sc-96852-SH and PRKCDBP shRNA (h) Lentiviral Particles: sc-96852-V as alternate gene silencing products.

For independent verification of PRKCDBP (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-96852A, sc-96852B and sc-96852C.

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

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

PRKCDBP (8D3): sc-293329 is recommended as a control antibody for monitoring of PRKCDBP 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 PRKCDBP gene expression knockdown using RT-PCR Primer: PRKCDBP (h)-PR: sc-96852-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.

PROTOCOLS

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