SANTA CRUZ BIOTECHNOLOGY, INC.

PIST siRNA (h): sc-76148

BACKGROUND

PIST (PDZ protein interacting specifically with TC10), also known as GOPC (Golgi associated PDZ and coiled-coil motif containing), CAL or FIG, is a 462 amino acid protein that localizes to the cytoplasm, as well as to the membrane of the Golgi apparatus and to the cell junction. Expressed ubiquitously and containing one PDZ (DHR) domain, PIST functions as a homooligomer that interacts with a variety of proteins and plays a role in intracellular protein trafficking and degradation. Additionally, PIST is thought to regulate ionic currents via membrane channel modification and may also play a role in autophagy. Chromosomal aberrations in the gene encoding PIST are found in glioblastoma multiform (GBM), a common and aggressive form of brain tumor, suggesting a role for mutated PIST in carcinogenesis. Three isoforms of PIST exist due to alternative splicing events.

REFERENCES

1. Yao, R., et al. 2001. Identification of a PDZ domain containing Golgi protein, GOPC, as an interaction partner of frizzled. Biochem. Biophys. Res. Commun. 286: 771-778.
2. Cheng, J., et al. 2004. Modulation of mature cystic fibrosis transmembrane regulator protein by the PDZ domain protein CAL. J. Biol. Chem. 279: 1892-1898.
3. He, J., et al. 2004. Interaction with cystic fibrosis transmembrane conductance regulator-associated ligand (CAL) inhibits β1-adrenergic receptor surface expression. J. Biol. Chem. 279: 50190-50196.
4. Hicks, S.W. and Machamer, C.E. 2005. Isoform-specific interaction of golgin-160 with the Golgi-associated protein PIST. J. Biol. Chem. 280: 28944-28951.
5. Wente, W., et al. 2005. Interactions with PDZ domain proteins PIST/GOPC and PDZK1 regulate intracellular sorting of the somatostatin receptor subtype 5. J. Biol. Chem. 280: 32419-32425.

CHROMOSOMAL LOCATION

Genetic locus: GOPC (human) mapping to 6q22.1.

PRODUCT

PIST 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 PIST shRNA Plasmid (h): sc-76148-SH and PIST shRNA (h) Lentiviral Particles: sc-76148-V as alternate gene silencing products.

For independent verification of PIST (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-76148A, sc-76148B and sc-76148C.

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

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

PIST (A-7): sc-393026 is recommended as a control antibody for monitoring of PIST 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 PIST gene expression knockdown using RT-PCR Primer: PIST (h)-PR: sc-76148-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.