SANTA CRUZ BIOTECHNOLOGY, INC.

PTOV1 siRNA (h): sc-97490

BACKGROUND

PTOV1 (prostate tumor overexpressed 1), also known as ACID2, is a 416 amino acid protein that shuttles between the cytoplasm and the nucleus in a cell cycle-dependent manner. Considered a mitogenic protein, PTOV1 is expressed in brain, heart, kidney, liver, placenta, skeletal muscle and small intestine. PTOV1 is induced by testosterone and is required for Flotillin-1 activation. PTOV1 is suggested to play a role in transcriptional activation and promotes cell proliferation. PTOV1 may regulate proliferation of neointimal VSMCs (vascular smooth muscle cells) and possibly promotes early atherosclerosis in the male aorta. A potential marker for prostate cancer, PTOV1 is a member of the mediator complex subunit 25 family and exists as three alternatively spliced isoforms. PTOV1 is encoded by a gene located on human chromosome 19, which consists of over 63 million bases, houses approximately 1,400 genes and is recognized for having the greatest gene density of the human chromosomes.

REFERENCES

1. Benedit, P., et al. 2001. PTOV1, a novel protein overexpressed in prostate cancer containing a new class of protein homology blocks. Oncogene 20: 1455-1464.
2. Santamaría, A., et al. 2003. PTOV-1, a novel protein overexpressed in prostate cancer, shuttles between the cytoplasm and the nucleus and promotes entry into the S phase of the cell division cycle. Am. J. Pathol. 162: 897-905.
3. Mittler, G., et al. 2003. A novel docking site on Mediator is critical for activation by VP16 in mammalian cells. EMBO J. 22: 6494-6504.
4. Santamaría, A., et al. 2005. PTOV1 enables the nuclear translocation and mitogenic activity of Flotillin-1, a major protein of lipid rafts. Mol. Cell. Biol. 25: 1900-1911.
5. Nakamura, Y., et al. 2006. PTOV1: a novel testosterone-induced atherogenic gene in human aorta. J. Pathol. 209: 522-531.

CHROMOSOMAL LOCATION

Genetic locus: PTOV1 (human) mapping to 19q13.33.

PRODUCT

PTOV1 siRNA (h) is a pool of 2 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 PTOV1 shRNA Plasmid (h): sc-97490-SH and PTOV1 shRNA (h) Lentiviral Particles: sc-97490-V as alternate gene silencing products.

For independent verification of PTOV1 (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-97490A and sc-97490B.

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

PTOV1 siRNA (h) is recommended for the inhibition of PTOV1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PTOV1 gene expression knockdown using RT-PCR Primer: PTOV1 (h)-PR: sc-97490-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.