SANTA CRUZ BIOTECHNOLOGY, INC.

PPAPDC2 siRNA (h): sc-92762

BACKGROUND

PPAPDC2 (phosphatidic acid phosphatase type 2 domain containing 2), also known as PSDP (presqualene diphosphate phosphatase) or PDP1, is a 295 amino acid multi-pass membrane protein belonging to the PA-phosphatase related phosphoesterase family. As a phosphatase and bioactive lipid, PPAPDC2 may indirectly participate in innate immunity as it dephosphorylates PSDP (presqualene diphosphate) to form PSMP (presqualene monophosphate). While widely expressed, PPAPDC2 is found at highest levels in brain, kidney, thymus, placenta, spleen and gastrointestinal organs, and has peak activity at a pH of 7-8. PPAPDC2 is subject to post-translational phosphorylation and is encoded by a gene that maps to human chromosome 9, which which houses over 900 genes, comprises nearly 4% of the human genome and is associated with hereditary hemorrhagic telangiectasia and familial dysautonomia.

REFERENCES

1. Fukunaga, K., et al. 2006. Identification and functional characterization of a presqualene diphosphate phosphatase. J. Biol. Chem. 281: 9490-9497.
2. Cottin, V., et al. 2007. Pulmonary vascular manifestations of hereditary hemorrhagic telangiectasia (rendu-osler disease). Respiration 74: 361-378.
3. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611666. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Carlo, T., et al. 2009. Activation of polyisoprenyl diphosphate phosphatase 1 remodels cellular presqualene diphosphate. Biochemistry 48: 2997-3004.
5. Gold-von Simson, G., et al. 2009. Kinetin in familial dysautonomia carriers: implications for a new therapeutic strategy targeting mRNA splicing. Pediatr. Res. 65: 341-346.
6. Miriyala, S., et al. 2010. Functional characterization of the atypical integral membrane lipid phosphatase PDP1/PPAPDC2 identifies a pathway for interconversion of isoprenols and isoprenoid phosphates in mammalian cells. J. Biol. Chem. 285: 13918-13929.

CHROMOSOMAL LOCATION

Genetic locus: PPAPDC2 (human) mapping to 9p24.1.

PRODUCT

PPAPDC2 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 PPAPDC2 shRNA Plasmid (h): sc-92762-SH and PPAPDC2 shRNA (h) Lentiviral Particles: sc-92762-V as alternate gene silencing products.

For independent verification of PPAPDC2 (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-92762A, sc-92762B and sc-92762C.

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

PPAPDC2 siRNA (h) is recommended for the inhibition of PPAPDC2 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 PPAPDC2 gene expression knockdown using RT-PCR Primer: PPAPDC2 (h)-PR: sc-92762-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.