



PWP2 siRNA (m): sc-152598

BACKGROUND

PWP2 (periodic tryptophan protein 2), also known as EHOC-17, is a 919 amino acid protein that is the human homolog of the *Saccharomyces cerevisiae* periodic Trp 2 protein. Belonging to the WD repeat PWP2 family of proteins, PWP2 contains 14 WD repeats and has over 40% identity to the yeast homolog. PWP2 is localized to the nucleus and is implicated to play a role in early G₁ phase of the cell cycle. Essential for cell viability, PWP2 is also thought to be a candidate for various genetic disorders, such as progressive myoclonus epilepsy (EPM1), autoimmune polyglandular disease (APECED) and holoprosencephaly-1 (HPE1). The PWP2 gene maps to chromosome 21q22.3.

REFERENCES

1. Yamakawa, K., et al. 1996. A periodic tryptophan protein 2 gene homologue (PWP2H) in the candidate region of progressive myoclonus epilepsy on 21q22.3. *Cytogenet. Cell Genet.* 74: 140-145.
2. Lafrenière, R.G., et al. 1996. Isolation and genomic structure of a human homolog of the yeast periodic tryptophan protein 2 (PWP2) gene mapping to 21q22.3. *Genome Res.* 6: 1216-1226.
3. Lalioti, M.D., et al. 1996. Cloning the cDNA of human PWP2, which encodes a protein with WD repeats and maps to 21q22.3. *Genomics* 35: 321-327.
4. Shafaatian, R., et al. 1996. PWP2, a member of the WD-repeat family of proteins, is an essential *Saccharomyces cerevisiae* gene involved in cell separation. *Mol. Gen. Genet.* 252: 101-114.
5. Nagamine, K., et al. 1997. Genomic organization and complete nucleotide sequence of the human PWP2 gene on chromosome 21. *Genomics* 42: 528-531.
6. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 601475. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Dosil, M. and Bustelo, X.R. 2004. Functional characterization of Pwp2, a WD family protein essential for the assembly of the 90 S pre-ribosomal particle. *J. Biol. Chem.* 279: 37385-37397.
8. Bernstein, K.A., et al. 2007. Ribosome biogenesis is sensed at the Start cell cycle checkpoint. *Mol. Biol. Cell* 18: 953-964.

CHROMOSOMAL LOCATION

Genetic locus: Pwp2 (mouse) mapping to 10 C1.

PRODUCT

PWP2 siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PWP2 shRNA Plasmid (m): sc-152598-SH and PWP2 shRNA (m) Lentiviral Particles: sc-152598-V as alternate gene silencing products.

For independent verification of PWP2 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-152598A, sc-152598B and sc-152598C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

PWP2 siRNA (m) is recommended for the inhibition of PWP2 expression in mouse 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 μ M in 66 μ l. 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 PWP2 gene expression knockdown using RT-PCR Primer: PWP2 (m)-PR: sc-152598-PR (20 μ l). 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.