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SANTA CRUZ BIOTECHNOLOGY, INC.

PRPSAP2 siRNA (m): sc-152504

BACKGROUND

Phosphoribosylpyrophosphate (PRPP) is an essential substrate and critical control factor for the synthesis of purine and pyrimidine nucleotides, histidine, tryptophan and NAD. The formation of phosphoribosylpyrophosphate from ATP and ribose-5-phosphate is catalyzed by the enzyme phosphoribosylpyrophosphate synthetase (PRS), which exists as a complex with two catalytic subunits, PRPS1 and PRPS2, and two associated subunits, PRPSAP1 and PRPSAP2. PRPSAP1 (phosphoribosyl pyrophosphate synthetase-associated protein 1), also known as PAP39, is a 356 amino acid ubiquitously expressed protein belonging to the ribose-phosphate pyrophosphokinase family. PRPSAP1 may play a regulatory role in 5-phosphoribose 1-diphosphate synthesis and is encoded by a gene mapping to human chromosome 17q25.1. PRPSAP2 (phosphoribosyl pyrophosphate synthetase-associated protein 2), also known as PAP41, is a 369 amino acid protein that is ubiquitously expressed and interacts with PRPS1 and PRPS2.

REFERENCES

1. Avdienko, I.D., et al. 1983. Range of the transmissivity of the genetic transfer factors pAP38, pAP39, pAP41 and pAP42. Biull. Eksp. Biol. Med. 95: 76-77.
2. Tatibana, M. 1996. Mammalian phosphoribosylpyrophosphate synthetase. Nippon Rinsho 54: 3195-3201.
3. Fujimori, S. 1996. PRPP synthetase superactivity. Nippon Rinsho 54: 3309-3314.
4. Sonoda, T., et al. 1997. Cloning and sequencing of rat cDNA for the 41-kDa phosphoribosylpyrophosphate synthetase-associated protein has a high homology to the catalytic subunits and the 39-kDa associated protein. Biochim. Biophys. Acta 1350: 6-10.
5. Katashima, R., et al. 1998. Molecular cloning of a human cDNA for the 41-kDa phosphoribosylpyrophosphate synthetase-associated protein. Biochim. Biophys. Acta 1396: 245-250.
6. Katashima, R., et al. 1998. Assignment of the human phosphoribosylpyrophosphate synthetase-associated protein 41 gene (PRPSAP2) to 17p11.2-p12. Genomics 54: 180-181.

CHROMOSOMAL LOCATION

Genetic locus: Prpsap2 (mouse) mapping to 11 B2.

PRODUCT

PRPSAP2 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PRPSAP2 shRNA Plasmid (m): sc-152504-SH and PRPSAP2 shRNA (m) Lentiviral Particles: sc-152504-V as alternate gene silencing products.

For independent verification of PRPSAP2 (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-152504A, sc-152504B and sc-152504C.

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

PRPSAP2 siRNA (m) is recommended for the inhibition of PRPSAP2 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 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

PRPSAP2 (A-1): sc-376025 is recommended as a control antibody for monitoring of PRPSAP2 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 PRPSAP2 gene expression knockdown using RT-PCR Primer: PRPSAP2 (m)-PR: sc-152504-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.