

PSAT1 siRNA (m): sc-152535

BACKGROUND

PSAT1 (phosphoserine aminotransferase 1), also known as phosphoserine aminotransferase, phosphohydroxythreonine aminotransferase, endometrial progesterone-induced protein, PSA, PSAT, EPIP or MGC1460, is a 370 amino acid protein belonging to the class-V pyridoxal-phosphate-dependent aminotransferase family and serC subfamily. PSAT1 catalyzes the second step in the L-serine synthesis pathway, converting 3-phosphohydroxypyruvate into 3-phosphoserine. While highly expressed in pancreas, brain, kidney and liver, PSAT1 is expressed at very low levels in colon, testis, thymus and prostate. There are two known isoforms of PSAT1 which result from alternative splicing events, and the gene encoding PSAT1 maps to human chromosome 9q21.2. PSAT1 deficiency can cause phosphoserine aminotransferase deficiency (PSATD), whose symptoms include psychomotor retardation, intractable seizures, acquired microcephaly and hypertonia.

REFERENCES

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- Hart, C.E., et al. 2007. Phosphoserine aminotransferase deficiency: a novel disorder of the serine biosynthesis pathway. *Am. J. Hum. Genet.* 80: 931-937.
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CHROMOSOMAL LOCATION

Genetic locus: *Psat1* (mouse) mapping to 19 A.

PRODUCT

PSAT1 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 PSAT1 shRNA Plasmid (m): sc-152535-SH and PSAT1 shRNA (m) Lentiviral Particles: sc-152535-V as alternate gene silencing products.

For independent verification of PSAT1 (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-152535A, sc-152535B and sc-152535C.

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

PSAT1 siRNA (m) is recommended for the inhibition of PSAT1 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 PSAT1 gene expression knockdown using RT-PCR Primer: PSAT1 (m)-PR: sc-152535-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.