



# PDK1 siRNA (h): sc-36203

## BACKGROUND

Mitochondrial pyruvate dehydrogenase (PDH) catalyzes the oxidative decarboxylation of pyruvate and plays a central role in the regulation of homeostasis of carbohydrate fuels in mammals. PDH activity is controlled by a phosphorylation/dephosphorylation cycle, phosphorylation leading to inactivation and dephosphorylation leading to reactivation of PDH. The phosphorylation of PDH is catalyzed by pyruvate dehydrogenase kinase (PDK), the activity of which is stimulated by the products of PDH catalysis. PDK1 consists of  $\alpha$  and  $\beta$  subunits; the kinase activity resides in the  $\alpha$  subunit. Three PDK isoenzymes have been identified in humans (PDK1, 2 and 3) and two have been identified in rodent (PDK1 and 2).

## CHROMOSOMAL LOCATION

Genetic locus: PDK1 (human) mapping to 2q31.1.

## PRODUCT

PDK1 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PDK1 shRNA Plasmid (h): sc-36203-SH and PDK1 shRNA (h) Lentiviral Particles: sc-36203-V as alternate gene silencing products.

For independent verification of PDK1 (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-36203A, sc-36203B and sc-36203C.

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

## APPLICATIONS

PDK1 siRNA (h) is recommended for the inhibition of PDK1 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  $\mu$ M in 66  $\mu$ 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.

## GENE EXPRESSION MONITORING

PDK1 (E-10): sc-515944 is recommended as a control antibody for monitoring of PDK1 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).

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PDK1 gene expression knockdown using RT-PCR Primer: PDK1 (h)-PR: sc-36203-PR (20  $\mu$ l, 455 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

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## RESEARCH USE

For research use only, not for use in diagnostic procedures.