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# PHKB siRNA (m): sc-152224

## BACKGROUND

Phosphorylase kinase is a hexadecameric enzyme that is comprised of four copies of four subunits that are encoded by four separate genes: PHKA, PHKB, PHKG, and PHKD. This serine/threonine specific kinase converts glycogen phosphorylase b to glycogen phosphorylase a, resulting in the release of glucose-1-phosphate from glycogen. PHKB (phosphorylase b kinase regulatory subunit  $\beta$ ) is a 1,093 amino acid subunit of phosphorylase kinase that, along with PHKA, has regulatory functions controlled by phosphorylation. Defects in the gene encoding PHKB are the cause of glycogen storage disease type 9B, which is also known as phosphorylase kinase deficiency of liver and muscle. This disease is characterized by a mild phenotype of hepatomegaly with only slightly elevated transaminase and plasma lipids, no clinical muscle involvement, and generally is correlated with a gradual improvement with increasing age. There are four isoforms of PHKB that are produced as a result of alternative splicing events.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: Phkb (mouse) mapping to 8 C3.

## PRODUCT

PHKB 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PHKB shRNA Plasmid (m): sc-152224-SH and PHKB shRNA (m) Lentiviral Particles: sc-152224-V as alternate gene silencing products.

For independent verification of PHKB (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-152224A, sc-152224B and sc-152224C.

## 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

PHKB siRNA (m) is recommended for the inhibition of PHKB 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  $\mu$ 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PHKB gene expression knockdown using RT-PCR Primer: PHKB (m)-PR: sc-152224-PR (20  $\mu$ 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.