

SignalSilence® PKD2 siRNA I



✓ 10 µM in 300 µl
(3 nmol)

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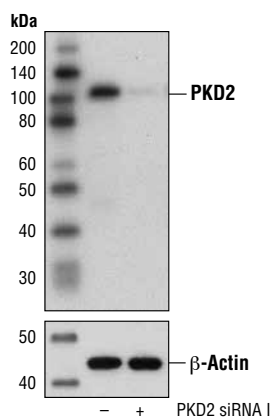
rev. 05/16/16

For Research Use Only. Not For Use In Diagnostic Procedures.

Species Cross-Reactivity: H

Description: SignalSilence® PKD2 siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit PKD2 expression using RNA interference, a method whereby gene expression can be selectively silenced through the delivery of double stranded RNA molecules into the cell. All SignalSilence® siRNA products from CST are rigorously tested in-house and have been shown to reduce target protein expression by western analysis.

Background: Protein kinase D2 (PKD2) is one of three members of the protein kinase D family, including PKD1/PKC μ and PKD3/PKC ν , that belong to the calcium/calmodulin superfamily of serine/threonine protein kinases (1,2). PKDs contain a conserved, carboxy-terminal catalytic domain, an amino-terminal regulatory region hallmarked by a PH domain that coordinates subcellular localization, and two zinc-finger/C1 lipid-binding domains that mediate activation of the enzyme in response to diacylglycerol (DAG) or phorbol ester (2,3). In addition to lipid-mediated activation, PKD catalytic activity can also be stimulated via phosphorylation of critical serine residues within the activation loop of the enzyme (4-8). Novel PKCs, such as PKC η and PKC ϵ , have been shown to phosphorylate PKD1 at Ser744 and Ser748 (Ser706 and Ser710 in human PKD2), resulting in alleviation of autoinhibition of the enzyme mediated by PH domain interactions with the catalytic domain (5). Phosphorylation and activation of PKD isoforms has also been described for other upstream kinases. For example, casein kinase 2 (CK2) has been shown to phosphorylate PKD2 at Ser244, which promotes nuclear accumulation of PKD2, phosphorylation of HDAC7, and expression of Nur77 (9). Although only a handful of PKD2 effectors have been identified, PKD2 has been implicated in regulating an array of cellular events, including cell survival, development, growth, migration, and transformation (10-14). PKD2-mediated phosphorylation of at least one known substrate, phosphatidylinositol 4-kinase type III β (PI4KIII β), also implicates PKD2 in the formation and regulation of exocytotic transport vesicles from the trans Golgi network (15).



Western blot analysis of extracts from PANC-3 cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-) or SignalSilence® PKD2 siRNA I (+), using PKD2 (D1A7) Rabbit mAb #8188 (upper) or β -Actin (D6A8) Rabbit mAb #8457 (lower). The PKD2 (D1A7) Rabbit mAb confirms silencing of PKD2 expression, while the β -Actin (D6A8) Rabbit mAb is used as a loading control.

Directions for Use: CST recommends transfection with 100 nM SignalSilence® PKD2 siRNA I 48 to 72 hours prior to cell lysis. For transfection procedure, follow protocol provided by the transfection reagent manufacturer. Please feel free to contact CST with any questions on use.

Each vial contains the equivalent of 100 transfections, which corresponds to a final siRNA concentration of 100 nM per transfection in a 24-well plate with a total volume of 300 µl per well.

Quality Control: Oligonucleotide synthesis is monitored base by base through trityl analysis to ensure appropriate coupling efficiency. The oligo is subsequently purified by affinity-solid phase extraction. The annealed RNA duplex is further analyzed by mass spectrometry to verify the exact composition of the duplex. Each lot is compared to the previous lot by mass spectrometry to ensure maximum lot-to-lot consistency.

Entrez-Gene ID #25865
Swiss-Prot Acc. #Q9BZL6

Storage: PKD2 siRNA I is supplied in RNase-free water. Aliquot and store at -20°C.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

Background References:

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