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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

PXK siRNA (m): sc-152602

BACKGROUND

PXK (PX domain containing serine/threonine kinase), also known as FLJ20335, MONaKA or Modulator of Na⁺/K⁺-ATPase, is a 578 amino acid protein which localizes to the cell membrane, peripheral membrane, cytoplasm and occasionally associates with the plasma membrane. PXK is a member of the protein kinase superfamily and assists in regulation of synaptic transmission and electrical excitability by binding Na⁺/K⁺-ATPase subunits Na⁺/K⁺-ATPase β 1 and Na⁺/K⁺-ATPase β 3 in the brain. However, PXK may not be capable of kinase activity. Seven known PXK isoforms exist, almost all of which are expressed in the majority of tissues (excluding heart). Isoform 1, also known as the long isoform or v1, is highly expressed in spleen, testis, brain and skeletal muscle. While PXK consists of three domains (PX, protein kinase and WH2), the protein kinase domain is not expected to be catalytically active.

REFERENCES

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- Mao, H., et al. 2005. MONaKA, a novel modulator of the plasma membrane Na,K-ATPase. *J. Neurosci.* 25: 7934-7943.
- Harley, J.B., et al. 2008. Genome-wide association scan in women with systemic lupus erythematosus identifies susceptibility variants in ITGAM, PXK, KIAA1542 and other loci. *Nat. Genet.* 40: 204-210.
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- Yang, W., et al. 2009. Population differences in SLE susceptibility genes: STAT4 and BLK, but not PXK, are associated with systemic lupus erythematosus in Hong Kong Chinese. *Genes Immun.* 10: 219-226.

CHROMOSOMAL LOCATION

Genetic locus: Pxx (mouse) mapping to 14 A1.

PRODUCT

PXK siRNA (m) is a target-specific 19-25 nt siRNA 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 PXK shRNA Plasmid (m): sc-152602-SH and PXK shRNA (m) Lentiviral Particles: sc-152602-V as alternate gene silencing products.

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.

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

PXK siRNA (m) is recommended for the inhibition of PXK 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.

GENE EXPRESSION MONITORING

PXK (D-6): sc-377077 is recommended as a control antibody for monitoring of PXK 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 PXK gene expression knockdown using RT-PCR Primer: PXK (m)-PR: sc-152602-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.