

KIR2.4 siRNA (h): sc-106873

BACKGROUND

ATP-sensitive K⁺ channels play important roles in many cellular functions by coupling cell metabolism to electrical activity. The KIR (inwardly rectifying potassium channel) family of potassium channels, including the KIR2 sub-family are thought to underlie the inward rectifier current (IK1) in the heart and play an important role in the central nervous system. Inward rectifying K⁺ channels possess a greater tendency to allow potassium to flow into the cell rather than out of it. A fourth subunit of the KIR2 group, with somewhat different properties from the other KIR2 subunits, is designated KIR2.4. and was assigned to chromosome 19q13.33 and designated KCNJ14. KIR2.4 is preferentially expressed in the neural retina and are present in most retinal neurons.

REFERENCES

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3. Inagaki, N., et al. 1998. ATP-sensitive potassium channels: structures, functions, and pathophysiology. *Jpn. J. Physiol.* 48: 397-412.
4. Seino, S. 1999. ATP-sensitive potassium channels: a model of hetero-multimeric potassium channel/receptor assemblies. *Annu. Rev. Physiol.* 61: 337-362.
5. Miki, T., et al. 1999. The structure and function of the ATP-sensitive K⁺ channel in Insulin-secreting pancreatic β cells. *J. Mol. Endocrinol.* 22: 113-123.
6. Meissner, T., et al. 1999. Congenital hyperInsulinism: molecular basis of a heterogeneous disease. *Hum. Mutat.* 13: 351-361.
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CHROMOSOMAL LOCATION

Genetic locus: KCNJ14 (human) mapping to 19q13.33.

PRODUCT

KIR2.4 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see KIR2.4 shRNA Plasmid (h): sc-106873-SH and KIR2.4 shRNA (h) Lentiviral Particles: sc-106873-V as alternate gene silencing products.

For independent verification of KIR2.4 (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-106873A, sc-106873B and sc-106873C.

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

KIR2.4 siRNA (h) is recommended for the inhibition of KIR2.4 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 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 KIR2.4 gene expression knockdown using RT-PCR Primer: KIR2.4 (h)-PR: sc-106873-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.