SANTA CRUZ BIOTECHNOLOGY, INC.

# KCNE4 siRNA (m): sc-45536

## BACKGROUND

The KCNE genes encode small, single transmembrane domain peptides that associate with pore-forming potassium channel subunits to form mixed complexes with unique characteristics. KCNE4 is a membrane protein belonging to a family of single transmembrane domain proteins known to have dramatic effect on the gating of certain potassium channels. KCNE4 is expressed strongly in heart, skeletal muscle and kidney. Electrophysiological studies show that human KCNE4 modulates the activation of the KCNQ1 channel.

## REFERENCES


1. Grunnet, M., Jespersen, T., Rasmussen, H.B., Ljungstrom, T., Jorgensen, N.K., Olesen, S.P. and Klaerke, D.A. 2002. KCNE4 is an inhibitory subunit to the KCNQ1 channel. J. Physiol. 542: 119-130.
2. Grunnet, M., Rasmussen, H.B., Hay-Schmidt, A., Rosenstierne, M., Klaerke, D.A., Olesen, S.P. and Jespersen, T. 2003. KCNE4 is an inhibitory subunit to Kv1.1 and Kv1.3 potassium channels. Biophys. J. 85: 1525-1537.
3. Teng, S., Ma, L., Zhen, Y., Lin, C., Bahring, R., Vardanyan, V., Pongs, O. and Hui, R. 2003. Novel gene hKCNE4 slows the activation of the KCNQ1 channel. Biochem. Biophys. Res. Commun. 303: 808-813.
4. Lundquist, A.L., Manderfield, L.J., Vanoye, C.G., Rogers, C.S., Donahue, B.S., Chang, P.A., Drinkwater, D.C., Murray, K.T. and George, A.L., Jr. 2005. Expression of multiple KCNE genes in human heart may enable variable modulation of I(Ks). J. Mol. Cell. Cardiol. 38: 277-287.


## CHROMOSOMAL LOCATION

Genetic locus: Kcne4 (mouse) mapping to 1 C4.

## PRODUCT

KCNE4 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see KCNE4 shRNA Plasmid (m): sc-45536-SH and KCNE4 shRNA (m) Lentiviral Particles: sc-45536-V as alternate gene silencing products.

For independent verification of KCNE4 (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-45536A, sc-45536B and sc-45536C.

## 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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## RESEARCH USE

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


## 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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.


## APPLICATIONS

KCNE4 siRNA (m) is recommended for the inhibition of KCNE4 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 µM in 66 µl. 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 KCNE4 gene expression knockdown using RT-PCR Primer: KCNE4 (m)-PR: sc-45536-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.