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# Product datasheet for SR418586

## Kcnc2 Mouse siRNA Oligo Duplex (Locus ID 268345)

### Product data:

| | |
|---|---|
| **Product Type:** | siRNA Oligo Duplexes |
| **Purity:** | HPLC purified |
| **Quality Control:** | Tested by ESI-MS |
| **Sequences:** | `Available with shipment` |
| **Stability:** | One year from date of shipment when stored at -20°C. |
| **# of transfections:** | Approximately 330 transfections/2nmol in 24-well plate under optimized conditions (final conc. 10 nM). |
| **Note:** | Single siRNA duplex (10nmol) can be ordered. |
| **RefSeq:** | NM_001025581, NM_001359752, NM_001359753 |
| **Synonyms:** | AW047325; B230117I07; KShIIIA; Kv3.2 |
| **Components:** | Kcnc2 (Mouse) - 3 unique 27mer siRNA duplexes - 2 nmol each (Locus ID 268345)<br>Included - SR30004, Trilencer-27 Universal Scrambled Negative Control siRNA Duplex - 2 nmol<br>Included - SR30005, RNAse free siRNA Duplex Resuspension Buffer - 2 ml |

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**Summary:**

Voltage-gated potassium channel that mediates transmembrane potassium transport in excitable membranes, primarily in the brain. Contributes to the regulation of the fast action potential repolarization and in sustained high-frequency firing in neurons of the central nervous system (PubMed:10561420, PubMed:10414303, PubMed:11124984, PubMed:10903572, PubMed:11506885, PubMed:15317859, PubMed:15917463, PubMed:17761775, PubMed:21414897). Homotetramer channels mediate delayed-rectifier voltage-dependent potassium currents that activate rapidly at high-threshold voltages and inactivate slowly (PubMed:10414303). Forms tetrameric channels through which potassium ions pass in accordance with their electrochemical gradient. The channel alternates between opened and closed conformations in response to the voltage difference across the membrane (By similarity). Can form functional homotetrameric and heterotetrameric channels that contain variable proportions of KCNC1, and possibly other family members as well; channel properties depend on the type of alpha subunits that are part of the channel (PubMed:10531438, PubMed:12000114). Channel properties may be modulated by either the association with ancillary subunits, such as KCNE1, KCNE2 and KCNE3 or indirectly by nitric oxide (NO) through a cGMP- and PKG-mediated signaling cascade, slowing channel activation and deactivation of delayed rectifier potassium channels (By similarity). Contributes to fire sustained trains of very brief action potentials at high frequency in thalamocortical and suprachiasmatic nucleus (SCN) neurons, in hippocampal and neocortical interneurons and in retinal ganglion cells (PubMed:10561420, PubMed:10903572, PubMed:11506885, PubMed:17761775). Sustained maximal action potential firing frequency in inhibitory hippocampal interneurons is negatively modulated by histamine H2 receptor activation in a cAMP- and protein kinase (PKA) phosphorylation-dependent manner (PubMed:10903572). Plays a role in maintaining the fidelity of synaptic transmission in neocortical GABAergic interneurons by generating action potential (AP) repolarization at nerve terminals, thus reducing spike-evoked calcium influx and GABA neurotransmitter release (PubMed:15917463). Required for long-range synchronization of gamma oscillations over distance in the neocortex (PubMed:22539821). Contributes to the modulation of the circadian rhythm of spontaneous action potential firing in suprachiasmatic nucleus (SCN) neurons in a light-dependent manner (PubMed:21414897).[UniProtKB/Swiss-Prot Function]

**Performance Guaranteed:**

OriGene guarantees that at least two of the three Dicer-Substrate duplexes in the kit will provide at least 70% or more knockdown of the target mRNA when used at 10 nM concentration by quantitative RT-PCR when the TYE-563 fluorescent transfection control duplex (cat# SR30002) indicates that >90% of the cells have been transfected and the HPRT positive control (cat# SR30003) provides 90% knockdown efficiency.

For non-conforming siRNA, requests for replacement product must be made within ninety (90) days from the date of delivery of the siRNA kit. To arrange for a free replacement with newly designed duplexes, please contact Technical Services at techsupport@origene.com. Please provide your data indicating the transfection efficiency and measurement of gene expression knockdown compared to the scrambled siRNA control (quantitative RT-PCR data required).