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# Product datasheet for TL501168V

## Kcnq1 Mouse shRNA Lentiviral Particle (Locus ID 16535)

### Product data:

| | |
|---|---|
| **Product Type:** | shRNA Lentiviral Particles |
| **Product Name:** | Kcnq1 Mouse shRNA Lentiviral Particle (Locus ID 16535) |
| **Locus ID:** | 16535 |
| **Synonyms:** | AW559127; Kcna9; KVLQT1 |
| **Vector:** | pGFP-C-shLenti (TR30023) |
| **Format:** | Lentiviral particles |
| **Components:** | Kcnq1 - Mouse shRNA lentiviral particles (4 unique 29mer target-specific shRNA, 1 scramble control), 0.5 ml each, >10^7 TU/ml. |
| **RefSeq:** | BC045142, BC055304, NM_008434, NM_008434.1, NM_008434.2 |
| **UniProt ID:** | P97414 |

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**Summary:**

Potassium channel that plays an important role in a number of tissues, including heart, inner ear, stomach and colon (By similarity) (PubMed:16314573, PubMed:11120752, PubMed:15004216). Associates with KCNE beta subunits that modulates current kinetics (By similarity) (PubMed:17597584, PubMed:15004216). Induces a voltage-dependent by rapidly activating and slowly deactivating potassium-selective outward current (By similarity) (PubMed:8900282). Promotes also a delayed voltage activated potassium current showing outward rectification characteristic (By similarity). During beta-adrenergic receptor stimulation participates in cardiac repolarization by associating with KCNE1 to form the I(Ks) cardiac potassium current that increases the amplitude and slows down the activation kinetics of outward potassium current I(Ks) (By similarity) (PubMed:15004216, PubMed:17597584). Muscarinic agonist oxotremorine-M strongly suppresses KCNQ1/KCNE1 current (By similarity). When associated with KCNE3, forms the potassium channel that is important for cyclic AMP-stimulated intestinal secretion of chloride ions (By similarity). This interaction with KCNE3 is reduced by 17beta-estradiol, resulting in the reduction of currents (By similarity). During conditions of increased substrate load, maintains the driving force for proximal tubular and intestinal sodium ions absorption, gastric acid secretion, and cAMP-induced jejunal chloride ions secretion (PubMed:16314573). Allows the provision of potassium ions to the luminal membrane of the secretory canaliculus in the resting state as well as during stimulated acid secretion (PubMed:19491250). When associated with KCNE2, forms an heterooligomer complex leading to currents with an apparently instantaneous activation, a rapid deactivation process and a linear current-voltage relationship and decreases the amplitude of the outward current (By similarity). When associated with KCNE4, inhibits voltage-gated potassium channel activity (By similarity). When associated with KCNE5, this complex only conducts current upon strong and continued depolarization (By similarity). Also forms a heterotetramer with KCNQ5; has a voltage-gated potassium channel activity (By similarity). Binds with phosphatidylinositol 4,5-bisphosphate (By similarity).[UniProtKB/Swiss-Prot Function]

**shRNA Design:**

These shRNA constructs were designed against multiple splice variants at this gene locus. To be certain that your variant of interest is targeted, please contact techsupport@origene.com. If you need a special design or shRNA sequence, please utilize our custom shRNA service.

**Performance Guaranteed:**

OriGene guarantees that the sequences in the shRNA expression cassettes are verified to correspond to the target gene with 100% identity. One of the four constructs at minimum are guaranteed to produce 70% or more gene expression knock-down provided a minimum transfection efficiency of 80% is achieved. Western Blot data is recommended over qPCR to evaluate the silencing effect of the shRNA constructs 72 hrs post transfection. To properly assess knockdown, the gene expression level from the included scramble control vector must be used in comparison with the target-specific shRNA transfected samples.

For non-conforming shRNA, requests for replacement product must be made within ninety (90) days from the date of delivery of the shRNA kit. To arrange for a free replacement with newly designed constructs, 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 shRNA control (Western Blot data preferred).