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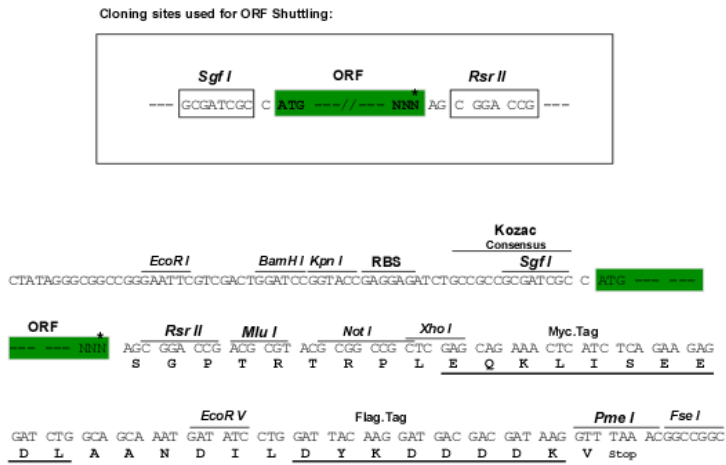
Protein Sequence: >MR231701 representing NM\_001253367  
 Red=Cloning site Green=Tags(s)

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 PFADLGDGGCYGDLFCKALKTYNMLCFGIYRLRDAHLSTPSQCTKRYVITNPPYEFELVPTDLIFCLMQF  
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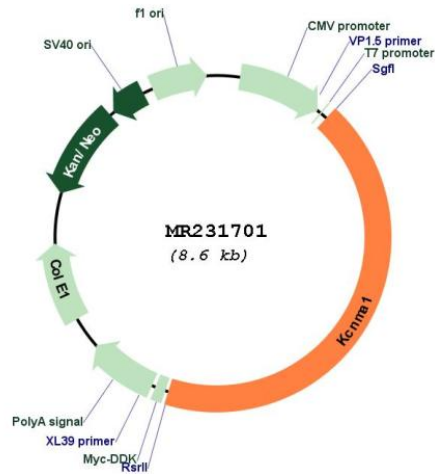
Restriction Sites: SgfI-RsrII

Cloning Scheme:



\* The last codon before the Stop codon of the ORF

## Plasmid Map:



**ACCN:** NM\_001253367

**ORF Size:** 3690 bp

**OTI Disclaimer:** The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

**Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

**Reconstitution Method:**

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

**RefSeq:** [NM\\_001253367.1](#), [NP\\_001240296.1](#)

**RefSeq Size:** 4970 bp

**RefSeq ORF:** 3693 bp

**Locus ID:** 16531

**Cytogenetics:** 14 A3

**MW:** 137.4 kDa

**Gene Summary:**

Potassium channel activated by both membrane depolarization or increase in cytosolic  $\text{Ca}(2+)$  that mediates export of  $\text{K}(+)$ . It is also activated by the concentration of cytosolic  $\text{Mg}(2+)$ . Its activation dampens the excitatory events that elevate the cytosolic  $\text{Ca}(2+)$  concentration and/or depolarize the cell membrane. It therefore contributes to repolarization of the membrane potential. Plays a key role in controlling excitability in a number of systems, such as regulation of the contraction of smooth muscle, the tuning of hair cells in the cochlea, regulation of transmitter release, and innate immunity. In smooth muscles, its activation by high level of  $\text{Ca}(2+)$ , caused by ryanodine receptors in the sarcoplasmic reticulum, regulates the membrane potential. In cochlea cells, its number and kinetic properties partly determine the characteristic frequency of each hair cell and thereby helps to establish a tonotopic map. Kinetics of KCNMA1 channels are determined by alternative splicing, phosphorylation status and its combination with modulating beta subunits. Highly sensitive to both iberiotoxin (IbTx) and charybdotoxin (CTX).[UniProtKB/Swiss-Prot Function]