

## Product datasheet for **RC220242**

### **KCNQ4 (NM\_004700) Human Tagged ORF Clone**

#### **Product data:**

|                           |                        |
|---------------------------|------------------------|
| Product Type:             | Expression Plasmids    |
| Tag:                      | Myc-DDK                |
| Symbol:                   | KCNQ4                  |
| Synonyms:                 | DFNA2; DFNA2A; KV7.4   |
| Mammalian Cell Selection: | Neomycin               |
| Vector:                   | pCMV6-Entry (PS100001) |
| E. coli Selection:        | Kanamycin (25 ug/mL)   |



[View online »](#)

**ORF Nucleotide  
Sequence:**

>RC220242 representing NM\_004700  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGC**

ATGGCCGAGGCCCGCGCCCTCGGCCTGGGTCCCCCGCCGGGACGCCCCCGCGCGGAGCTAG  
 TGGCGCTCACGGCGTGCAGAGCGAACAGGGCGAGGCGGGCGGGCGGCTCCCCCGCCGCTCGGCCT  
 CCTGGGAGCGCCCTGCCGCGGGCGCGCCCTCCCTGGGCGGGCTCCGGCTCGGGCTCCGCTCGCGC  
 CAGCGCTCCTCGGCCGCGCACAGCGCTACCGCCGCTGCAGAACTGGGTCTACAACGTGCTGGAGCGGC  
 CCCGCGGTGGGCTTCTGTCTACCACTCTTCAATTTTTGCTGGTCTTCAGCTGCCTGGTGTCTGT  
 GCTGTCCACTATCCAGGAGCACCAGAACTTGCCAACGAGTGTCTCTCATCTTGAATTCGTGATGATC  
 GTGGTTTTCGGCTTGAGTACATCGTCCGGTCTGGTCCGCCGGATGCTGCTGCCGTACCGAGGATGGC  
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 CAGGATTCTCAAGTTCCTGGTGGCCAAAAGGAAATTCAAGGAGACACTGCGACCGTACGACGTGAAGGAC  
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 CACAAGCTGGACCTGCTGTTGGGCTTCTATTCGCGCTGCCTGCGCTCTGGCACCTCGGCCAGCCTGGGCG  
 CCGTGCAAGTGCCGCTGTTGACCCCGACATCACCTCCGACTACCACAGCCCTGTGGACCACGAGGACAT  
 CTCGCTCTCCGCACAGACGCTCAGCATCTCCCGCTCGGTACGACCAACATGGAC

AC**GGGCCG**TCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGA  
 TTACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC220242 representing NM\_004700  
Red=Cloning site Green=Tags(s)

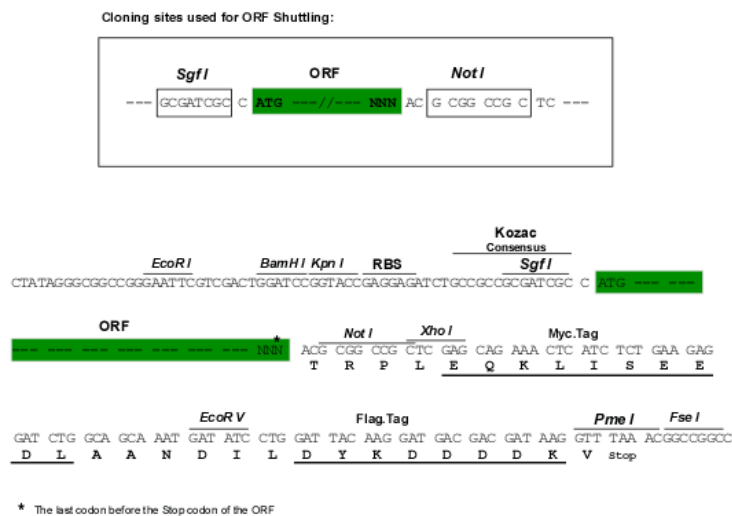
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 VVFGLEYIVRVWSAGCCCRYRGWQGRFRFARKPFCVIDFIVFVASVAVIAAGTQGNIFATSALRSMRFLQ  
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 RLYSTDMRAYLTATWYYYDSILPSFRELALLFEHVQARNGGLRPLEVRRAPVPDGA PSRYPPVATCHR  
 PGSTSFCPGESSRMGIKDRIRMGSSQRRTPGSKQHLAPPTMPTSPSSEQVGEATSPTKVQKSWSFNDRTR  
 FRASRLKPRTSADAPSEEVAEEKSYQCELTVDIMPVKTIVIRSIRILKFLVAKRKFETLRPYDVKD  
 VIEQYSAGHLDMLGRIKSLQTRVDQIVGRGPGDRKAREKGDGKPSDAEVVDEISMGRVVKVEKQVQSIE  
 HKLDLLLGFYSRCLRSGTSASLGAVQVPLFDPDITSDYHSPVDHEDISVSAQTLISRSVSTNMD

TRRLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mg2763\\_f06.zip](https://cdn.origene.com/chromatograms/mg2763_f06.zip)

**Restriction Sites:** SgfI-NotI

**Cloning Scheme:**



**ACCN:** NM\_004700

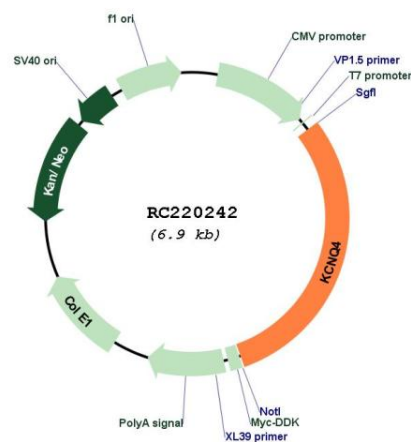
**ORF Size:** 2085 bp

**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](#)

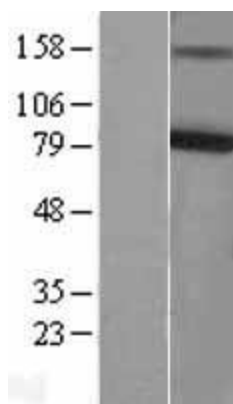
**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Components:</b>            | 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).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Reconstitution Method:</b> | <ol style="list-style-type: none"> <li>1. Centrifuge at 5,000xg for 5min.</li> <li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li> <li>3. Close the tube and incubate for 10 minutes at room temperature.</li> <li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li> <li>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.</li> </ol>                                                                                                                                                                                                                                                                        |
| <b>Note:</b>                  | Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>RefSeq:</b>                | <u><a href="#">NM_004700.4</a></u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>RefSeq Size:</b>           | 2335 bp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>RefSeq ORF:</b>            | 2088 bp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Locus ID:</b>              | 9132                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>UniProt ID:</b>            | <u><a href="#">P56696</a></u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Cytogenetics:</b>          | 1p34.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Protein Families:</b>      | Druggable Genome, Ion Channels: Potassium, Transmembrane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>MW:</b>                    | 76.9 kDa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Gene Summary:</b>          | <p>The protein encoded by this gene forms a potassium channel that is thought to play a critical role in the regulation of neuronal excitability, particularly in sensory cells of the cochlea. The current generated by this channel is inhibited by M1 muscarinic acetylcholine receptors and activated by retigabine, a novel anti-convulsant drug. The encoded protein can form a homomultimeric potassium channel or possibly a heteromultimeric channel in association with the protein encoded by the KCNQ3 gene. Defects in this gene are a cause of nonsyndromic sensorineural deafness type 2 (DFNA2), an autosomal dominant form of progressive hearing loss. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jul 2008]</p> |

## Product images:



Circular map for RC220242



Western blot validation of overexpression lysate (Cat# [LY417828]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC220242 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).