

Product datasheet for **RC208606**

ATP1A2 (NM_000702) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	ATP1A2 (NM_000702) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	ATP1A2
Synonyms:	FHM2; MHP2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC208606 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGGCCGTGGGGCTGGCCGTGAGTACTCACCTGCCGCCACCACGGCAGAGAATGGGGCGGCAAGAAGA
AACAGAAGGAGAAGGAAGTGGATGAGCTGAAGAAGGAGGTGGCAATGGATGACCACAAGCTGTCTTGGG
TGAGCTGGGCCGCAATACCAAGTGGACCTGTCCAAGGGCCTACCAACCAGCGGGCTCAGGACGTTCTG
GCTCGAGATGGGCCAACGCCCTCACACCCTCCACAACCCCTGAGTGGTCAAGTCTGCCGTCAGC
TTTTCGGGGGTCTCCATCCTGCTGTGGATTGGGGCTATCCTCTGCTTCTGGCCTACGGCATCCAGGC
TGCCATGGAGGATGAACCATCCAACGACAATCTATATCTGGGTGTGGTGTGGCAGCTGTGGTCATTGTC
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CTCAGCAAGCCCTTGTGATCCGGGAGGGAGAGAAGATGCAGATCAACGCAGAGGAAGTGGTGGTGGGAGA
CCTGGTGGAGGTGAAGGGTGGAGACCGCTCCCTGCTGACCTCCGGATCATCTTCTCTCATGGCTGTAAG
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CCCTGGAGACCCGCAATATCTGTTTCTTCTCCACCAACTGTGTTGAAGGCACTGCCAGGGGCAATTGTGAT
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ACACAGCTGGTGTGCTGCTGAGTCAAGTGCATTGAGCTCTCCTGTGGCTCAGTGGAGAA
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ACGCGTACGCGGGCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC208606 protein sequence
 Red=Cloning site Green=Tags(s)

MGRGAGREYSPAATTAENGGGKKKQKEKELDELKKEVAMDDHKLSDLDELGRKYQVDLSKGLTNQRAQVDL
 ARDGNALTPPTTPEWVKFCRQLFGGFSILLWIGAILCFLAYGIQAAMEDEPSNDNLYLGVVLAADVIV
 TGCFSYQEAKSSKIMDSFKNMVPPQALVIREGEMQINAEVVDLVEVKGGRVADLRRISSHGCK
 VDNSSLTGESEPQTRSPEFTHENPLETRNICFFSTNVEGTARGIVIATGDRTVMGRIATLASGLEVGRT
 PIAMEIEHFIQLITGVAVFLGVSFFVLSLILGYSWLEAVIFLIGIIVANVPEGLLATVTVCLTLAKRMA
 RKNCLVKNLEAVETLGSTSTICSDKTGTLTQNRMTVAHMWFDNQIHEADTTEDQSGATFDKRSPTWTALS
 RIAGLCNRAVFKAGQENISVSKRDTAGDASESALLKCIELSCGSVRKMRDRNPKVAEIPFNSTNKYQLSI
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 GCQRQGAIVAVTGDGVNDSPALKKADIGIAMGISGSDVSKQAADMILLDDNFASIVTGVEEGRILFDNLK
 KSIAYTLTSNIPEITPFLFIIANIPLPLGTVTILCIDLGTDMVPAISLAYEAAESDIMKRQPRNSQTDK
 LVNERLISMAYGQIGMIQALGGFFTYFVILAENGLPSRLLGIRLDWDDRTMNDLEDSYQGEWTEYQRKV
 VEFTCHTAFFASIVVVQWADLIICKTRRNSVVFQGMKNKILIFGLLEETALAAFLSYCPGMGVALRMYPL
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TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

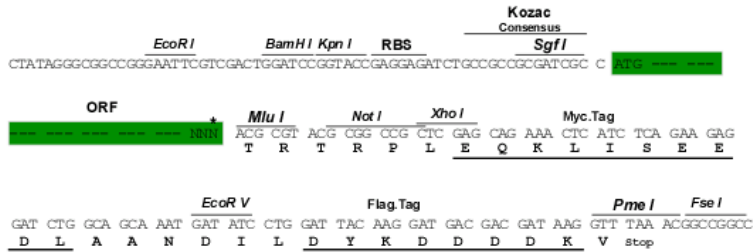
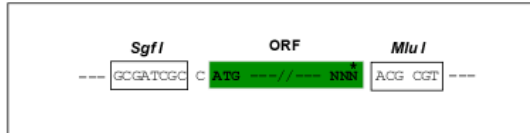
https://cdn.origene.com/chromatograms/mk6256_c01.zip

Restriction Sites:

Sgfl-MluI

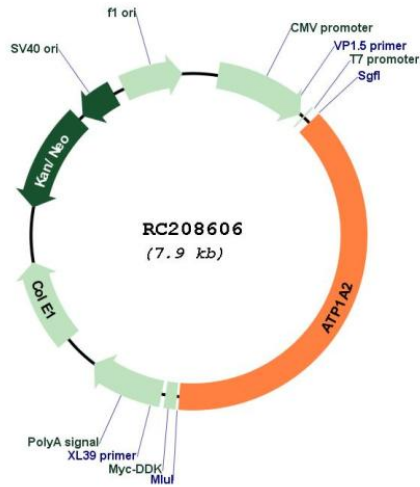
Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

Plasmid Map:



ACCN: NM_000702

ORF Size: 3060 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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_000702.4](#)

RefSeq Size: 5496 bp

RefSeq ORF: 3063 bp

Locus ID: 477

UniProt ID: [P50993](#)

Cytogenetics: 1q23.2

Domains: E1-E2_ATPase, Cation_ATPase_N, Hydrolase, Cation_ATPase_C

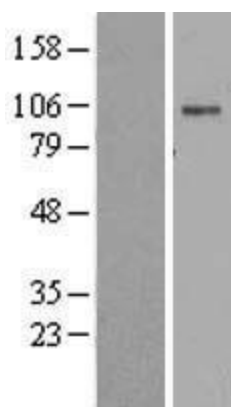
Protein Families: Druggable Genome, Transmembrane

Protein Pathways: Cardiac muscle contraction

MW: 112.3 kDa

Gene Summary:

The protein encoded by this gene belongs to the family of P-type cation transport ATPases, and to the subfamily of Na⁺/K⁺ -ATPases. Na⁺/K⁺ -ATPase is an integral membrane protein responsible for establishing and maintaining the electrochemical gradients of Na and K ions across the plasma membrane. These gradients are essential for osmoregulation, for sodium-coupled transport of a variety of organic and inorganic molecules, and for electrical excitability of nerve and muscle. This enzyme is composed of two subunits, a large catalytic subunit (alpha) and a smaller glycoprotein subunit (beta). The catalytic subunit of Na⁺/K⁺ -ATPase is encoded by multiple genes. This gene encodes an alpha 2 subunit. Mutations in this gene result in familial basilar or hemiplegic migraines, and in a rare syndrome known as alternating hemiplegia of childhood. [provided by RefSeq, Oct 2008]

Product images:

Western blot validation of overexpression lysate (Cat# [LY424562]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC208606 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).