

Product datasheet for **RG228631**

Sodium Potassium ATPase (ATP1A1) (NM_001160233) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Sodium Potassium ATPase (ATP1A1) (NM_001160233) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	ATP1A1
Synonyms:	CMT2DD; HOMGSMR2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG228631 representing NM_001160233 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGCCTTTAAGGTTGGACGTGATAAGTATGAGCCTGCAGCTGTTTCAGAACAAGGTGATAAAAAGGGCA
AAAAGGGCAAAAAGACAGGGACATGGATGAAGTGAAGAAAGAAGTTTCTATGGATGATCATAAACTTAG
CCTTGATGAACCTCATCGTAAATATGGAACAGACTTGAGCCGGGATTAACATCTGCTCGTCGACGTGAG
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GGCAGCTCTTTGGGGGTTCTCAATGTTACTGTGGATTGGAGCGATTCTTTGTTTCTGGCTTATAGCAT
CCAAGCTGCTACAGAAGGGAACCTCAAACGATAATCTGTACCTGGGTGTGGTGCATACAGCCGTTGTA
ATCATAACTGGTTGCTTCTCCTACTATCAAAGAAGCTAAAAGTTCAAAGATCATGGAATCCTTCAAAAACA
TGGTCCCTCAGCAAGCCCTTGTGATTCGAAATGGTGAGAAAATGAGCATAAATGCGGAGGAAGTTGTGGT
TGGGGATCTGGTGAAGTAAAAGGAGGAGACCGAATCCTGCTGACCTCAGAATCATATCTGCAAAATGGC
TGCAAGGTGGATAACTCCTCGCTCACTGGTGAATCAGAACCCAGACTAGGTCTCCAGATTTACAAAATG
AAAACCCCTGGAGACGAGGAACATTGCCTTCTTTCAACCAATTGTGTTGAAGGCACCGCAGTGGTAT
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CAGACCCCATTTGCTGCAGAAATGAACATTTTATCCACATCATCAGGGTGTGGCTGTGTTCTCTGGGTG
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CATCGTAGCCAATGTGCCGAAGGTTTGTGGCCACTGTCACGGTCTGTCTGACACTTACTGCCAACGC
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TCTATTATAAGAACCCCAACACATCGGAGCCCAACACCTGTTGGTGTGAAGGGCGCCCCAGAAAGGA
 TCCTAGACCGTTGCAGCTCTATCCTCCTCCACGGCAAGGAGCAGCCCCTGGATGAGGAGCTGAAAGACGC
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 AGGAAAATCGTGGAGTTCACCTGCCACACAGCCTTCTTCGTGAGTATCGTGGTGGTGCAGTGGGCCGACT
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 CCTCTTGAAGAGACAGCCCTGGCTGCTTTCCTTCTACTGCCCTGGAATGGGTGTTGCTCTTAGGATG
 TATCCCTCAAACCTACCTGGTGGTCTGTGCCTTCCCCTACTCTTCTCATCTCGTATATGACGAAG
 TCAGAAAACCTATCATCAGGCGACGCCCTGGCGGCTGGGTGGAGAAGAAACCTACTAT

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>RG228631 representing NM_001160233
 Red=Cloning site Green=Tags(s)

MAFKVGRDKYEPAAVSEQGDKKKGGKDRDMDLKEVSMDDHKLSDLELHRKYGTDLSRGLTSARAAE
 ILARDGNALTPPPTPEWIKFCRQLFGGFSMLLWIGAILCFLAYSIQAATEEPEQNDNLVLGVVLSAVV
 IITGCFSYQEAQSSKIMESFKNMVQQALVIRNGEKMSINAEEVVVDLVEVKGDRIPADLRIISANG
 CKVDNSSLTGESEPQTRSPDFTNENPLETRNIAFFSTNCVEGTARGIVVYTGDRVMGRIATLASGLEGG
 QTPIAAEIEHFIHIITGVAVFLGVSFFILSLILEYTWLEAVIFLIGIIVANVPEGLLATVTVCLTLTAKR
 MARKNCLVKNLEAVETLSTSTICSDKTGTLTQNRMTVAHMWFDNQIHEADTTENQSGVSFDKTSATWLA
 LSRIAGLCNRAVFQANQENLPILKRAVAGDASESALLKCIELCCGSVKEMRERYAKIVEIPFNSTNKYQL
 SIHKNPNTSEPHLLVMKGAPERILDRCSSILLHGKEQPLDEELKDAFQNAYLELGGGERVLGFCHLFL
 PDEQFPEGFQFDTDDVNFPIDNLCFVGLISMIDPPRAAVPDAVGKCRSAGIKVIMVTGDHPITAKAIKAG
 VGIISEGNETVEDIAARLNIPVSQVNPRAKACVVHGSCLKDMTSEQLDDILKYHTEIVFARTSPQKLI
 IVEGCQRQGAIVAVTGDGVNDSPALKKADIGVAMGIAGSDVSKQAADMILLDDNFASIVTGVEEGRILFD
 NLKKSIAIYTLTSNIPEITPFLIFIIANIPLPLGTVTILCIDLGTDMVPAISLAYEQAESDIMKRQPRNPK
 TDKLVNERLISMAYGQIGMIQALGGFFTYFVILAENGFLPIHLLGLRVDWDRWINDVEDSYGQWQTYEQ
 RKIVEFTCHTAFFVSIIVVQWADLVICKTRRNSVQQGMKNKILIFGLFEETALAALFSLCPCGMGVALRM
 YPLKPTWWFCAPYSLLIFVYDEVKRLIIRRRPGGWVEKETYY

TRTRPLE – GFP Tag – V

Restriction Sites:

SgfI-MluI

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:	<ol style="list-style-type: none">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:	<u>NM_001160233.1</u> , <u>NP_001153705.1</u>
RefSeq Size:	3778 bp
RefSeq ORF:	3072 bp
Locus ID:	476
UniProt ID:	<u>P05023</u>
Cytogenetics:	1p13.1
Protein Families:	Druggable Genome, Transmembrane
Protein Pathways:	Cardiac muscle contraction
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 1 subunit. Multiple transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, May 2009]