

## Product datasheet for RC214911

### ATP2A1 (NM\_173201) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	ATP2A1 (NM_173201) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	ATP2A1
Synonyms:	ATP2A; SERCA1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC214911 representing NM_173201 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGAGGCCGCTCATGCTAAAACCACGGAGGAATGTTTGGCCTATTTGGGGTGAGTGAGACCACGGGCC  
TCACCCCGGACCAAGTTAAGCGGAATCTGGAGAAATACGGCCTCAATGAGCTCCCTGCTGAGGAAGGGAA  
GACCCCTGGGAGCTGGTATAGAGCAGTTTGAAGACCTCCTGGTGCGGATTCTCCTCTGGCCGATGC  
ATTTCTTCGTGCTGGCCTGGTTTGAAGAGGTGAAGAGACCATCACTGCCTTTGTTGAACCTTTGTCA  
TCCTCTTGATCCTCATTGCCAATGCCATCGTGGGGTTTGGCAGGAGCGAACGCAGAGAACGCCATCGA  
GGCCCTGAAGGAGTATGAGCCAGAGATGGGAAGGTCTACCGGGCTGACCGCAAGTCAGTGCAAAGGATC  
AAGGCTCGGGACATCGTCCCTGGGGACATCGTGGAGGTGGCTGTGGGGGACAAAGTCCCTGCAGACATCC  
GAATCCTCGCCATCAAATCCACCACGCTGCGGGTTGACCAGTCCATCCTGACAGGCGAGTCTGTATCTGT  
CATCAAACACACGGAGCCCGTTCCTGACCCCGAGCTGTCAACCAGGACAAGAAGAACATGCTTTTCTCG  
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AGATCCGAGACCAAAATGGCTGCCACAGAACAGGACAAGACCCCTTGCAGCAGAAGCTGGATGAGTTTGG  
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GACAAGACAGGCACCCTCACCACCAACCAGATGTCTGTCTGCAAGATGTTTATCATTGACAAGGTGGATG  
GGGACATCTGCCTCCTGAATGAGTTCTCCATCACCGGCTCCACTACGCTCCAGAGGGAGAGGTCTTGAA  
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CACTCACCACCCTGGTGGAGAAGATGAATGTGTTCAACACGGATGTGAGAAGCCTCTCGAAGGTGGAGAG  
AGCCAACGCTGCAACTCGGTGATCCGCCAGCTAATGAAGAAGGAATTCACCCTGGAGTTCTCCCGAGAC



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AGAAAGTCCATGTCTGTCTATTGCTCCCCAGCCAAATCTTCCCGGGCTGCTGTGGGCAACAAGATGTTTG  
 TCAAGGGTGCCCCGAGGGCGTCATCGACCGCTGTAACATGTGCGAGTTGGCACCACCCGGGTGCCACT  
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 ATGTCAACTACAGCCAGCTGACTCACTTATGCAGTGCACCGAGGACAACACCCACTTTGAGGGCATAGA  
 CTGTGAGGTCTTCGAGGCCCCCGAGCCCATGACCATGGCCCTGTCCGTGCTGGTACCATCGAGATGTGC  
 AATGCACTGAACAGCCTGTCCGAGAACCAGTCCCTGCTGCGGATGCCACCTGGGTGAACATCTGGCTGC  
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ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATTAAGTTTAA

**Protein Sequence:**

>RC214911 representing NM\_173201  
 Red=Cloning site Green=Tags(s)

MEAAHAKTTEECLAYFGVSETTGLTPDQVKRNLEKYGLNELPAEEGKTLWELVIEQFEDLLVRILLAAAC  
 ISFVLAWFEEGEETITAFVEPFVILLILIANAIIVGVWQERNAENAIEALKEYEPEMGKVYRADRKSQVRI  
 KARDIVPGDIVEVAVGDKVPADIRILAIKSTTLRVDQSIILTGESVSVIKHTEPVDPRAVNQDKKNMLFS  
 GTNIAAGKALGIVATTGVGTEIGKIRDQMAATEQDKTPLQKQLDEFGEQLSKVISLICVAVWLINIGHFN  
 DPVHGGSWFRGAIYYFKIAVALAVAAIPEGLPAVITTTCLALGTRRMAKKNAIVRSLPSVETLGCSTVICS  
 DKTGTLTTNQMSVCKMFIIDKVDGDI CLLNEFSITGSTYAPEGEVLKNDKPVRPGQYDGLVELATICALC  
 NDSSLDFNEAKGVYKVEATETALTTLVEKMNVFNTDVRSLSKVERANACNSVIRQLMKKEFTLEFSRD  
 RKSMSVYCSPAKSSRAAVGNKMFVKGAPGVIDRCNYVRVGTTRVPLTGPVKEKIMAVIKEWGTGRDTRL  
 CLALATRDTPPKREEMVLDDSFLEYE TDLTFVGVVGM LDPPEVETGSIQLCRDAGIRVIMITGDNKG  
 TAI AICRRIGIFGENEEVADRAYTGREFDDLPLAEQREACRRACCFARVEPSHKS KIVEYLQSYDEITAM  
 TGDGVNDAPALKKAIEIGIAMSGTAVAKTASEMVLADDFSTIVA AVEEGRAIYNNMKQFIRYLISSNVG  
 EVVICIFLTAALGLPEALIPVQLLWVNLVDGLPATALGFNPPDLDIMDRPPRSPKEPLISGWLFFRYMAI  
 GGYVGAATVGA AAWFLYAEDGPHVNYSQLTHFMQCTEDNTHFEGIDCEVFEAPEPMTMALSVLVTIEMC  
 NALNSLSENQSLLRMPPWNIWLLGSICLSMSLHFLILYVDPLPMIFKLRALDLTQWMLVKIISLPVIGL  
 DEILKFVARNYLEDPEDERRK

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk8012\\_h07.zip](https://cdn.origene.com/chromatograms/mk8012_h07.zip)

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_173201

**ORF Size:** 3003 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\\_173201.4](#)

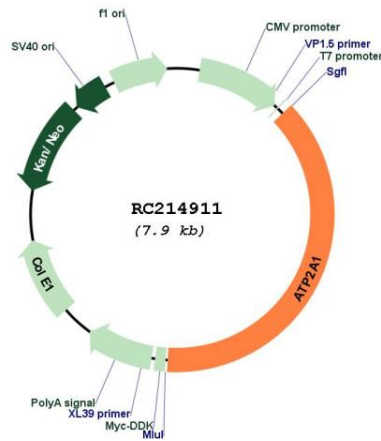
**RefSeq Size:** 3528 bp

**RefSeq ORF:** 3006 bp

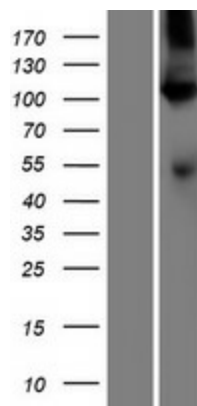
**Locus ID:** 487  
**UniProt ID:** [O14983](#)  
**Cytogenetics:** 16p11.2  
**Protein Families:** Druggable Genome, Transmembrane  
**Protein Pathways:** Alzheimer's disease, Calcium signaling pathway  
**MW:** 110.1 kDa

**Gene Summary:** This gene encodes one of the SERCA Ca(2+)-ATPases, which are intracellular pumps located in the sarcoplasmic or endoplasmic reticula of muscle cells. This enzyme catalyzes the hydrolysis of ATP coupled with the translocation of calcium from the cytosol to the sarcoplasmic reticulum lumen, and is involved in muscular excitation and contraction. Mutations in this gene cause some autosomal recessive forms of Brody disease, characterized by increasing impairment of muscular relaxation during exercise. Alternative splicing results in three transcript variants encoding different isoforms. [provided by RefSeq, Oct 2013]

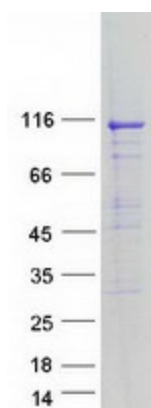
### Product images:



Circular map for RC214911



Western blot validation of overexpression lysate (Cat# [LY406646]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC214911 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified ATP2A1 protein (Cat# [TP314911]). The protein was produced from HEK293T cells transfected with ATP2A1 cDNA clone (Cat# RC214911) using MegaTran 2.0 (Cat# [TT210002]).