

Product datasheet for **RG216526**

ATP2A1 (NM_004320) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	ATP2A1 (NM_004320) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	ATP2A1
Synonyms:	ATP2A; SERCA1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



[View online »](#)

ORF Nucleotide Sequence:

>RG216526 representing NM_004320
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTGCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGAGGCCGCTCATGCTAAAACCACGGAGGAATGTTTGGCCTATTTTGGGGTGAAGTGAAGACCACGGCC
 TCACCCCGGACCAAGTTAAGCGGAATCTGGAGAAATACGGCCTCAATGAGCTCCCTGCTGAGGAAGGGAA
 GACCTGTGGGAGCTGGTATAGAGCAGTTTGAAGACCTCCTGGTGGGATTCTCCTCCTGGCCGATGC
 ATTTCTTCTGCTGCTGGCCTGGTTTGAAGAGGTGAAGAGACCATCACTGCCTTTGTTGAACCTTTGTCA
 TCCTCTTGATCCTCATTGCCAATGCCATCGTGGGGTTTGGCAGGAGCGGAACGCAGAGAACGCCATCGA
 GGCCCTGAAGGAGTATGAGCCAGAGATGGGGAAGGTCTACCGGGCTGACCGCAAGTCAGTGCAAAGGATC
 AAGGCTCGGGACATCGTCCCTGGGACATCGTGGAGGTGGCTGTGGGGACAAAGTCCCTGCAGACATCC
 GAATCCTCGCCATCAAATCCACCAGCTGCGGGTTGACCAGTCCATCCTGACAGGCGAGTCTGTATCTGT
 CATCAAACACACGGAGCCGTTCTGACCCCGAGCTGTCAACCAGGACAAGAAGAACATGCTTTTCTCG
 GGCAACAAATTGCAGCCGGCAAGGCCTTGGGCATCGTGGCCACCACTGGTGTGGCCACCGAGATTGGGA
 AGATCCGAGACCAATGGCTGCCACAGAACAGGACAAGACCCCTTGCAGCAGAAGCTGGATGAGTTTGG
 GGAGCAGCTCTCCAAGGTCACTCCCTCATCTGTGTGGCTGTCTGGCTTATCAACATTGGCCACTTCAAC
 GACCCCGTCCATGGGGGCTCCTGGTTCGCGGGGCCATCTACTACTTTAAGATTGCCGTGGCCTTGGCTG
 TGGCTGCCATCCCGAAGGTCTTCTGCAGTCACTACCACCTGCCTGGCCTGGTACCCGTCGGATGGC
 AAAGAAGAATGCCATTGTAAGAAGCTTGCCTCCGTAGAGACCTGGGCTGCACCTCTGTATCTGTTCC
 GACAAGACAGGCACCCCTACCACCAACCAGATGTCTGTGCAAGATGTTATCATTGACAAGGTGGATG
 GGGACATCTGCCCTCCTGAATGAGTTCTCCATCACCGGCTCCACTACGCTCCAGAGGGAGAGTCTTGAA
 GAATGATAAGCCAGTCCGGCCAGGGCAGTATACGGGCTGGTGGAGCTGGCCACCATCTGTGCCCTCTGC
 AATGACTCCTCCTGGACTTCAACGAGGCCAAAGGTGTCTATGAGAAGGTCGGCAGGCCACCGAGACAG
 CACTCACACCCTGGTGGAGAAGATGAATGTGTTCAACACGGATGTGAGAAGCCTCTCGAAGGTGGAGAG
 AGCCAACGCTGCAACTCGGTGATCCGCCAGCTAATGAAGAAGGAATCACCCCTGGAGTTCTCCCGAGAC
 AGAAAGTCCATGTCTGTCTATTGCTCCCGACCAATCTTCCCGGCTGCTGTGGCAACAAGATGTTTG
 TCAAGGGTGGCCCTGAGGGCGTCATCGACCCTGTAACATGTGCGAGTTGGCACCACCCGGGTGCCACT
 GACGGGGCCGGTGAAGGAAAAGATCATGGCGGTGATCAAGGAGTGGGCACTGGCCGGGACACCCTGCGC
 TGCTTGGCCCTGGCCACCCGGGACACCCCGGAAGCGAGAGGAAATGGTCTGGATGACTCTGCCAGGT
 TCCTGGAGTATGAGACGGACCTGACATTCGTGGGTGTAGTGGGCATGCTGGACCTCCGCGCAAGGAGGT
 CACGGGCTCCATCCAGCTGTGCCGTGACCCGGGATCCGGGTGATCATGATCACTGGGGACAACAAGGGC
 ACAGCCATTGCCATCTGCCGGCGAATTGGCATCTTTGGGAGAACGAGGAGGTGGCCGATCGCGCTACA
 CGGGCCGAGAGTTCGACGACCTGCCCTGGCTGAACAGCGGGAAGCCTGCCGACGTGCCTGCTGCTTCGC
 CCGTGTGGAGCCCTCGCACAAGTCCAAGATTGTGGAGTACCTGCAGTCTACGATGAGATCACAGCCATG
 ACAGGTGATGGCGTCAATGACGCCCTGCCCTGAAGAAGGCTGAGATTGGCATTGCCATGGGATCTGGCA
 CTGCCGTGGCCAAGACTGCCTCTGAGATGGTGTGGCTGACGACAACCTTCCACCATCGTAGCTGCTGT
 GGAGGAGGGCCGCGCCATCTACAACAACATGAAGCAGTTTCCGCTACCTCATTTCCTCAACGTTGGC
 GAGGTGGTCTGTATCTTCTGACCGCTGCCCTGGGGCTGCTGAGGCCCTGATCCCGGTGACGCTGCTAT
 GGGTGAACCTGGTACCACGGGCTCCAGCCACAGCCCTGGGCTTCAACCCACCAGACCTGGACATCAT
 GGACCGCCCCCGGAGCCCAAGGAGCCCTCATCAGTGGCTGGCTCTTCTCCGCTACATGGCAATC
 GGGGGCTATGTGGGTGCAGCCACCGTGGGAGCAGCTGCCTGGTGGTTCTGTACGCTGAGGATGGCCCTC
 ATGTCAACTACAGCCAGCTGACTCACTTATGCAGTGCACCGAGGACAACACCCACTTTGAGGGCATAGA
 CTGTGAGGTCTTCGAGGCCCGGAGCCCATGACCATGGCCCTGTCCGTGCTGGTACCATCGAGATGTGC
 AATGCACTGAACAGCCTGTCCGAGAACCAGTCCCTGCTGCGGATGCCACCCTGGTGAACATCTGGCTGC
 TGGGCTCCATCTGCTCTCCATGTCCCTGCACTTCTCATCTATGTTGACCCCTGCCGATGATCTT
 CAAGCTCCGGGCCCTGGACCTCACCCAGTGGCTCATGGTCTCAAGATCTCACTGCCAGTATTGGGCTC
 GACGAAATCCTCAAGTTCGTTGCTCGGAACTACCTAGAGGGA

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >RG216526 representing NM_004320
 Red=Cloning site Green=Tags(s)

```

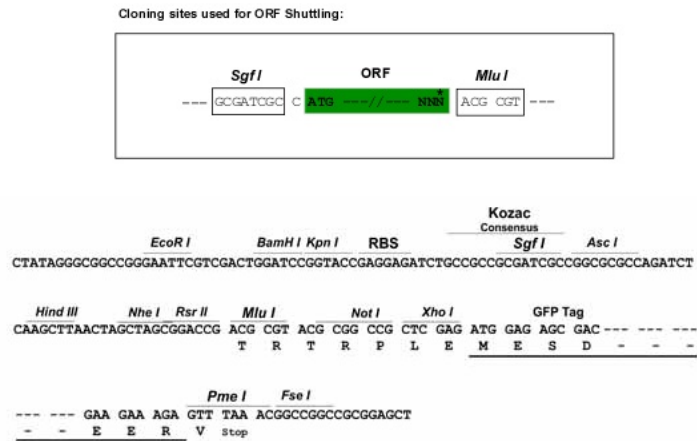
MEAAHAKTTEELAYFGVSETTGLTPDQVKRNLEKYGLNELPAEEGKTLWELVIEQFEDLLVRILLAAAC
ISFVLAWFEEGEETITAFVEPFVILLILIANAIVGVWQERNAENAIEALKEYEPEMGKVYRADRSVQRI
KARDIVPGDIVEVAVGDKVPADIRILAIKSTTLRVDQSILTGESVSVIKHTEPVPDPRAVNQDKKNMLFS
GTNIAAGKALGIVATTGVGTEIGKIRDQMAATEQDKTPLQKLEDFGEQLSKVISLICVAVWLINIGHFN
DPVHGGSWFRGAIYYFKIAVALAVAAIPEGLPAVITTCALGTRRMAKKNAIVRSLPSVETLGCTSVICS
DKTGTLTTNQMSVCKMFIIDKVDGDICLLNEFSITGSTYAPEGEVLKNDKPVPRGQYDGLVELATICALC
NDSSLDNFNEAKGVYEKVGATETALTTLVEKMNVFNTDVRSLKVERANACNSVIRQLMKKEFTLEFSRD
RKSMSVYCSPAKSSRAAVGNKMFVKGAPGVIDRCNYVRVGTTRVPLTGPVKEKIMAVIKEWGTGRDTRLR
CLALATRDTPPKREEMVLDDARSFLEYETDLTFVGVVGMDDPPRKEVTGSIQLCRDAGIRVIMITGDNKG
TAIAICRRIGIFGENEEVADRAYTGREFDDLPLAEQREACRRACCFARVEPSHKS KIVEYLQSYDEITAM
TGDGVNDAPALKKAEIGIAMSGTAVAKTASEMVLADDFSTIVA AVEEGRAIYNNMKQFIRYLISSNVG
EVCIFLTAALGLPEALIPVQLLWVNLVTDGLPATALGFNPPDLDIMDRPPRSPKEPLISGWLFFRYMAI
GGYVGAATVGA AAWFLYAEDGPHVNSQLTHFMQCTEDNTHFEGIDCEVFEAPEPMTMALSVLVTIEMC
NALNSLSENQSLLRMPWNIWLLGSICLSMHLFLILYVDPLPMIFKLRALDLTQWMLVLIKISLPVIGL
DEILKFVARNYLEG
  
```

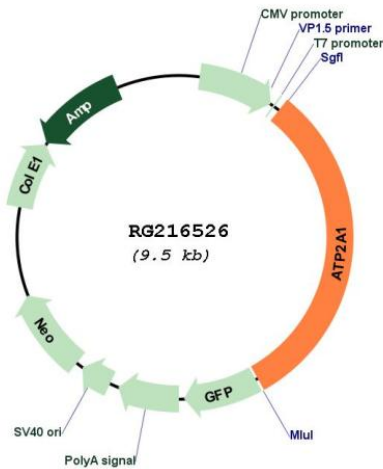
TRTRPLE - GFP Tag - V

Restriction Sites:

SgfI-MluI

Cloning Scheme:



Plasmid Map:


ACCN: NM_004320

ORF Size: 2982 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_004320.6](#)

RefSeq Size: 3570 bp

RefSeq ORF: 2985 bp

Locus ID: 487

UniProt ID: [O14983](#)

Cytogenetics: 16p11.2

Protein Families: Druggable Genome, Transmembrane

Protein Pathways: Alzheimer's disease, Calcium signaling pathway

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]