

## Product datasheet for **RG234304**

### **ATP5A (ATP5A1) (NM\_001257335) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	ATP5A (ATP5A1) (NM_001257335) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	ATP5A
Synonyms:	ATP5A; ATP5A1; ATP5AL2; ATPM; COXPD22; hATP1; HEL-S-123m; MC5DN4; MOM2; OMR; ORM
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



[View online »](#)

**ORF Nucleotide Sequence:**

>RG234304 representing NM\_001257335  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGTCCTCTATTCTGAAGAGCGTATTCTGGAGCTGATACCTCTGTTGATCTTGAAGAACTGGGCGTG  
 TCTTAAGTATTGGTGATGGTATTGCCCGGTACATGGGCTGAGGAATGTTCAAGCAGAAGAAATGGTAGA  
 GTTTTCTTCAGGCTTAAAGGGTATGTCCTTGAACCTGGAACCTGACAATGTTGGTGTTCGCTGTTTGA  
 AATGATAAACTAATTAAGGAAGGAGATATAGTGAAGAGGACAGGAGCCATTGTGGACGTTCCAGTTGGTG  
 AGGAGCTGTTGGTCTGTAGTTGATGCCCTTGGTAATGCTATTGATGGAAGGGTCCAATTGGTCCAA  
 GACGCGTAGGCGAGTTGGTCTGAAAGCCCCGGTATCATTCTCGAATTCAGTGCGGGAACCAATGCAG  
 ACTGGCATTAAAGGCTGTGGATAGCTTGGTCCAAATGGTCTGGTCTGAGCGTGAACGATTATTGGTGACC  
 GACAGACTGGGAAAACCTCAATTGCTATTGACACAATCATTAAACCAGAAACGTTTCAATGATGGATCTGA  
 TGAAGAAGAAGCTGTACTGTATTTATGTTGCTATTGGTCAAAAGAGATCCACTGTTGCCAGTTGGTG  
 AAGAGACTTACAGATGCAGATGCCATGAAGTACACCATTGTGGTGTGGCTACGGCTCGGATGCTGCC  
 CACTTCAGTACCTGGCTCCTTACTCTGGCTGTTCCATGGGAGAGTATTTAGAGACAATGGCAAACATGC  
 TTTGATCATCTATGACGACTTATCCAAACAGGCTGTTGCTTACCCTCAGATGTCTCTGTTGCTCCGCCGA  
 CCCCTGGTCTGAGGCCATCCTGGTGTGTTCTACCTACACTCCCGGTTGCTGGAGAGAGCAGCCA  
 AAATGAACGATGCTTTGGTGGTGGCTCCTTACTGCTTTGCCAGTCATAGAAACACAGGCTGGTGTGT  
 GTCTGCTTACATCCAAACAATGCTATTCCATCACTGACGGACAGATCTTCTGGAAACAGAATTGTTCC  
 TACAAAGGTATCCGCCCTGCAATTAACGTTGGTCTGTCTGTATCTCGTGTGGATCCGCTGCCAAACCA  
 GGGCTATGAAGCAGGTAGCAGGTACCATGAAGCTGGAATTGGCTCAGTATCGTGTGGATCCGCTGCTTTTGC  
 CCAGTTCCGGTTCTGACCTCGATGCTGCCACTCAACAACCTTTGAGTCTGGGCTGCGTCTAACTGAGTTG  
 CTGAAGCAAGGACAGTATTCTCCATGGCTATTGAAGAACAAGTGGCTGTTATCTATGCGGGTGAAGGG  
 GATATCTTGATAAACTGGAGCCAGCAAGATTACAAAGTTGAGAATGCTTTCTGTCTCATGCTGTGAG  
 CCAGCACCAAGCCTTGTGGGCACTATCAGGGCTGATGGAAGATCTCAGAAACAATCAGATGCAAAGCTG  
 AAAGAGATTGTAACAATTTCTGGCTGGATTTGAAGCT

AG**CGGACCG**ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTAA

**Protein Sequence:**

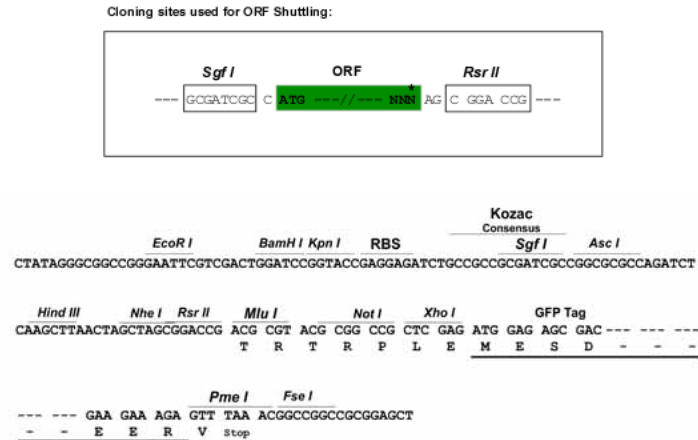
>RG234304 representing NM\_001257335  
 Red=Cloning site Green=Tags(s)

MSSILEERILGADTSVDLEETGRVLSIGDGIARVHGLRNVQAEEMVEFSSGLKGMSLNLEPDNVGVVVF  
 NDKLIKEGDIVKRTGAIVDVPVGEELLGRVVDALGNAIDGKGPISKTRRRVGLKAPGIIPRISVREPMQ  
 TGIKAVDSLVPIGRGQRELIIGDRQTGKTSIAIDTIINQKRFNDGSEKLLYCIYVAIGQKRSTVAQLV  
 KRLTDADAMKYTIIVVSATASDAAPLQYLAPYSGCSMGEYFRDNGKHALIIYDDLKQAVAYRQMSLLRR  
 PPGREAYPGDVLYLHSRLLERAAMNDAFGGSLTALPVIETQAGDVSAYIPTNVISITDQIFLETFL  
 YKGIRPAINVGLSVSRVGSAAQTRAMKQVAGTMKLELAQYREVAFAQFGSDLDAATQQLSRGVRLTEL  
 LKQGQYSPMAIEEQVAVIYAGVRGYLDKLEPSKITKFENAFLSHVVSQHQAALLGTIRADGKISEQSDAKL  
 KEIVTNFLAGFEA

SGP**TRRRLE** – GFP Tag – V

**Restriction Sites:**

Sgfl-RsrII

**Cloning Scheme:**


**ACCN:** NM\_001257335

**ORF Size:** 1509 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\\_001257335.1](#), [NP\\_001244264.1](#)

**RefSeq Size:** 2263 bp

**RefSeq ORF:** 1512 bp

**Locus ID:** 498

**UniProt ID:** [P25705](#)

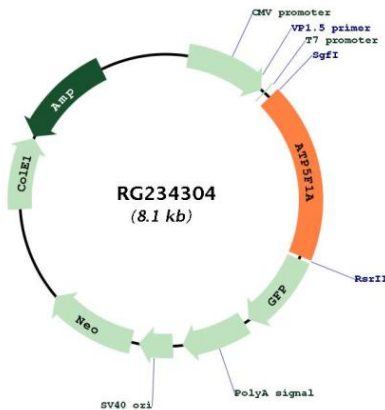
**Cytogenetics:** 18q21.1

**Protein Families:** Druggable Genome

**Protein Pathways:** Alzheimer's disease, Huntington's disease, Metabolic pathways, Oxidative phosphorylation, Parkinson's disease

**Gene Summary:** This gene encodes a subunit of mitochondrial ATP synthase. Mitochondrial ATP synthase catalyzes ATP synthesis, using an electrochemical gradient of protons across the inner membrane during oxidative phosphorylation. ATP synthase is composed of two linked multi-subunit complexes: the soluble catalytic core, F<sub>1</sub>, and the membrane-spanning component, F<sub>o</sub>, comprising the proton channel. The catalytic portion of mitochondrial ATP synthase consists of 5 different subunits (alpha, beta, gamma, delta, and epsilon) assembled with a stoichiometry of 3 alpha, 3 beta, and a single representative of the other 3. The proton channel consists of three main subunits (a, b, c). This gene encodes the alpha subunit of the catalytic core. Alternatively spliced transcript variants encoding the different isoforms have been identified. Pseudogenes of this gene are located on chromosomes 9, 2, and 16. [provided by RefSeq, Mar 2012]

**Product images:**



Circular map for RG234304