

## Product datasheet for **RC234304**

### **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:	Myc-DDK
Symbol:	ATP5A
Synonyms:	ATP5A; ATP5A1; ATP5AL2; ATPM; COXPD22; hATP1; HEL-S-123m; MC5DN4; MOM2; OMR; ORM
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC234304 representing NM\_001257335  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGTCCTCTATTCTTGAAGACGCTATTCTTGGAGCTGATACCTCTGTTGATCTTGAAGAACTGGGCGTG  
 TCTTAAGTATTGGTGATGGTATTGCCCGCTACATGGGCTGAGGAATGTTCAAGCAGAAGAAATGGTAGA  
 GTTTTCTTCAGGCTTAAAGGGTATGTCCTTGAACCTGGAACCTGACAATGTTGGTGTTCGCTGTTTGA  
 AATGATAAACTAATTAAGGAAGGAGATATAGTGAAGAGGACAGGAGCCATTGTGGACGTTCCAGTTGGTG  
 AGGAGCTGTTGGGTCGTGATGTTGATGCCCTTGGTAATGCTATTGATGGAAGGGTCCAATTGGTTCCAA  
 GACGCGTAGGCGAGTTGGTCTGAAAGCCCCGGTATCATTCTCGAATTCAGTGCGGGAACCAATGCAG  
 ACTGGCATTAAAGGCTGGATAGCTTGGTGCCAATTGGTCGTGGTCAGCGTGAAGTATTGGTGACC  
 GACAGACTGGGAAAACCTCAATTGCTATTGACACAATCATTAAACCAGAAACGTTTCAATGATGGATCTGA  
 TGAAGAAGAAGCTGTACTGTATTTATGTTGCTATTGGTCAAAAGAGATCCACTGTTGCCAGTTGGTG  
 AAGAGACTTACAGATGCAGATGCCATGAAGTACACCATTGTGGTGTCCGCTACGGCTCGGATGCTGCC  
 CACTTCAGTACCTGGCTCCTTACTCTGGCTGTTCCATGGGAGAGTATTTAGAGACAATGGCAAACATGC  
 TTTGATCATCTATGACGACTTATCCAACAGGCTGTTGCTTACCGTCAGATGCTCTGTTGCTCCGCCGA  
 CCCCTGGTCGTGAGGCCTATCCTGGTATGTGTTCTACCTACACTCCCGTTGCTGGAGAGAGCAGCCA  
 AAATGAACGATGCTTTGGTGGTGGCTCCTTGACTGCTTTGCCAGTCATGAAACACAGGCTGGTATGT  
 GTCTGCTTACATCCAACAAATGTCATTTCCATCACTGACGGACAGATCTTCTGGAAACAGAATTGTTT  
 TACAAAGGTATCCGCCCTGCAATTAACGTTGGTCTGCTGTATCTCGTGTCCGATCCCGTGCCAAACCA  
 GGGCTATGAAGCAGGTAGCAGGTACCATGAAGCTGGAATTGGCTCAGTATCGTGTGAGGTTGCTGTTT  
 CCAGTTCGGTTCTGACCTCGATGCTGCCACTCAACAACCTTTGAGTCTGGCGTGGCTCTAACTGAGTTG  
 CTGAAGCAAGGACAGTATTCTCCATGGCTATTGAAGAACAAGTGGCTGTTATCTATGCCGGTGAAGGG  
 GATATCTTGATAAACTGGAGCCAGCAAGATTACAAGTTTGAAGATGCTTTCTGTCTCATGCTGTCAG  
 CCAGCACCAAGCCTTGTGGGCACTATCAGGGCTGATGGAAAGATCTCAGAACAATCAGATGCAAAGCTG  
 AAAGAGATTGTAACAAATTTCTGGCTGGATTTGAAGCT

AG**CGGACCG**ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC  
 TGGATTACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC234304 representing NM\_001257335  
 Red=Cloning site Green=Tags(s)

MSSILEERILGADTSVDLEETGRVLSIGDGIARVHGLRNVQAEEMVEFSSGLKGMSLNLEPDNVGVVVF  
 NDKLIKEGDIVKRTGAIVDVPVGEELLGRVVDALGNAIDGKPIGSKTRRRVGLKAPGIIPRISVREPMQ  
 TGIAVDSLVPVIGRGQRELIIGDRQTGKTSIAIDTIIINQKRFNDGSDEKKLYCIYVAIGQKRSTVAQLV  
 KRLTDADAMKYTIIVSATASDAAPLQYLAPYSGCSMGYFRDNGKHALIIYDDLKQAVAYRQMSLLRR  
 PPGREAYPGDVFYLSRLLERAAMNDAFGGSLTALPVIETQAGDVSAYIPTNVISITDQIFLETFL  
 YKGIKPAINVGLSVSRVGSAAQTRAMKQVAGTMKLELAQYREVAFAQFGSDLDAATQQLSRGVRTEL  
 LKQGQYSPMAIEEQVAVIYAGVRGYLDKLEPSKITKFENAFLSHVVSQHQALLGTRADGKISEQSDAKL  
 KEIVTNFLAGFEA

SGP**TRTRPLEQKLI**SEEDLAANDILDYKDDDDKV

**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

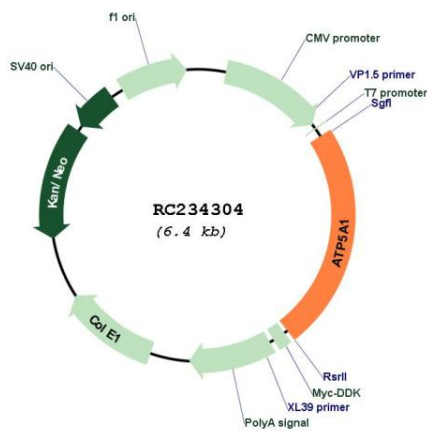
**Protein Families:** Druggable Genome

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

**MW:** 54.9 kDa

**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, F1, and the membrane-spanning component, Fo, 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 RC234304