

## Product datasheet for **RC224789**

### ATP7A (NM\_000052) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	ATP7A (NM_000052) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	ATP7A
Synonyms:	DSMAX; MK; MNK; SMAX3
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC224789 ORF sequence, <b>codon optimized</b> . Due to the complexity of NM_000052, the ORF clone is codon optimized for mammalian Expression. The nucleotide sequence differs from the reference sequence, yet the amino acid sequence remains identical.

Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGGATCGCC**

ATGGATCCAAGTATGGGTGTGAATTCTGTTACCATTTCTGTTGAGGGTATGACTTCAATTCCTGTGTTT  
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CACACCAGTTAAATCCTCAGAAGGGTCACAGCAAAGGAGTCCATCATATACCAATGATTCAACAGCCACT  
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TCCAGAATCCCTGAGAAAAGCAATAGAGGCTGTATCACCGGGCTATATAGAGTTAGTATACAAGTGAA  
GTTGAGAGTACCTCAAACCTCCCTCCAGCTCATCTCTTCAGAAGATTCCTTTGAATGTAGTTAGCCAGC



CTCTGACACAAGAACTGTGATAAACATTGATGGCATGACTTGTAAATCCTGTGTGCAGTCTATTGAGGG  
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TGTCAGACACGAATGAGCCGTTGGTAGTAAAGCTCAGCCTTCATCGGAAATGCCGCTTTGACTTCAAC  
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**Protein Sequence:** >RC224789 representing NM\_000052  
 Red=Cloning site Green=Tags(s)

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MDPSMGVNSVTISVEGMCNSCVWVIEQQIGKVNQVHHIKVSLEEKNATIIYDPKLTQPKTLQEAIDDMG
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FIIDGMHCKSCVSNIESTLSALQYVSSIVVLENRSIVKYNASSVTPESLRKAIEAVSPGLYRVSITSE
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LVKKDRSASHLDHKREIRQWRRSFLVSLFFCIPVMGLMIYMMVMDHFFATLHHNQNSKEEMINLHSSMF
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CKVTNIEGLLHKNNWNIEDNNIKNASLVQIDASNEQSSTSSSMIDAQISNALNAQQYKVLIGNREWMIR
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ARSIASQVGITKVF AEVLP SHK VAKVKQLQE EGKRVAMVGDGINDSPALAMANVGAIGTGDVAIEAAD
VVLIRNDLLDVASIDL SRET VKRIRINFV FAL IYNLVGPIAAGVFMPIGLVLQPMGSAAMAASSVSV
VLSLFLKLYRKPTYESYELPARSQIGQKSPSEISVHVIGIDDTSRNSPKLGLLDRIVNYSRASINLLSD
KRSLNSVVTSEPKHSLLVGDFREDDDTAL
  
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TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_000052

**ORF Size:** 4500 bp

**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

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\\_000052.5](#)

**RefSeq Size:** 8492 bp

**RefSeq ORF:** 4503 bp

**Locus ID:** 538

**UniProt ID:** [Q04656](#)

**Cytogenetics:** Xq21.1

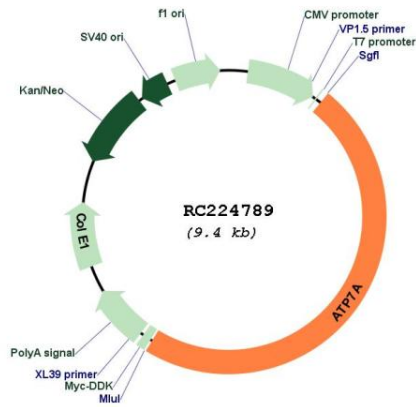
**Domains:** E1-E2\_ATPase, Hydrolase, HMA

**Protein Families:** Druggable Genome, Transmembrane

**MW:** 163.4 kDa

**Gene Summary:**

This gene encodes a transmembrane protein that functions in copper transport across membranes. This protein is localized to the trans Golgi network, where it is predicted to supply copper to copper-dependent enzymes in the secretory pathway. It relocalizes to the plasma membrane under conditions of elevated extracellular copper, and functions in the efflux of copper from cells. Mutations in this gene are associated with Menkes disease, X-linked distal spinal muscular atrophy, and occipital horn syndrome. Alternatively-spliced transcript variants have been observed. [provided by RefSeq, Aug 2013]

**Product images:**


Circular map for RC224789