

Product datasheet for **RC216924**

Choline Acetyltransferase (CHAT) (NM_020984) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Choline Acetyltransferase (CHAT) (NM_020984) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Choline Acetyltransferase
Synonyms:	CHOACTASE; CMS1A; CMS1A2; CMS6
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC216924 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCAGCAAAAACCTCCAGCAGTGGAGTCTGGGCTGCCAAAACCTGCCCGTGCCCGCTGCAGCAGA
 CCCTGGCCACGTACCTGCAGTGCATGCGACACTTGGTGTCTGAGGAGCAGTTTCAGGAAGAGCCAGGCCAT
 TGTGCAGCAGTTTGGGGCCCTGGTGGCCTCGGCGAGACCCTGCAGCAGAAAACCTCGGAGCGGCAGGAG
 AAGACAGCCAACCTGGGTGTCTGAGTACTGGCTGAATGACATGTATCTCAACAACCGCCTGGCCCTGCCTG
 TCAACTCCAGCCCTGCCGTGATCTTTGCTCGGCAGCACTTCCCTGGCACCAGTACCAGCTGAGGTTTGC
 AGCCAGCCTCATCTCTGGTGTACTCAGCTACAAGGCCCTGCTGGACAGCCACTCCATTCCCAGTACTGT
 GCCAAAGGCCAGCTGTCAGGGCAGCCCTTTGCATGAAGCAATACTATGGGCTCTTCTCCTCTACCGGC
 TCCCCGGCCATACCCAGGACACGCTGGTGGCTCAGAACAGCAGCATCATGCCGGAGCCTGAGCACGTCT
 CGTAGCCTGCTCAATCAGTTCTTTGTCTTGGATGTTGTCATTAATTTCCGCCGTCTCAGTGGGGGAT
 CTGTCTACTCAGTTGAGAAAAGATAGTCAAAATGGCTTCCAACGAGGACGAGCGTTTGCCTCCAATTGGCC
 TGCTGACGTCTGACGGGAGGAGCGAGTGGGCCGAGGCCAGGACGGTCTCGTGAAGACTCCACCAACCG
 GGACTCGCTGGACATGATTGAGCGCTGCATCTGCCTTGTATGCCTGGACGCGCCAGGAGCGTGGAGCTC
 AGCGACACCCACAGGGCACTCCAGCTCCTTACGGCGGAGGCTACAGCAAGAACGGGCCAATCGCTGGT
 ACGACAAGTCCCTGCAGTTTGTGGTGGGCCGAGACGGCACCTGCGGTGTGGTGTGCAACACTCCCCATT
 CGATGGCATCGTCTGGTGCAGTGCAGTGCATCTGCTCAAGCACATGACGCAGAGCAGCAGGAAGCTG
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 AAGGCCACTTAGCCTCCTCGGCAGAAAACCTCAACGAATAGTAAAGAACCTTGACTTCATTGTCTATAA
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 GCATACACAGTGCATGGCCATAACAGGGATGGCCATTGACAACCACCTGCTGGCACTGCGGGAGCTGGCC
 GGGCCATGTGCAAGGAGCTGCCCGAGATGTTTCATGGATGAAACCTACCTGATGAGCAACCGGTTTGTCT
 CTCCTACTGCCAGGTGCCACAACCACGGAGATGTTCTGCTGCTATGGTCTGTGGTCCCAATGGGTAT
 GGTGCCCTGCTACAACCCCGCCAGAGACCATCTTTTCTGCATCTCTAGCTTTCACAGCTGCAAAGAGA
 CTCTTTCTAGCAAGTTTGCAAAAGCTGTGGAAGAAAGCCTCATTGACATGAGAGACCTCTGCAGTCTGCT
 GCCGCTACTGAGAGCAAGCCATTGGCAACAAAGGAAAAGCCACGAGGCCAGCCAGGGACACCAACCT

AG**CGGACCG**ACGCGTACGCGGCCGCTCGAGCAGAAAACCTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC
 TGGATTACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

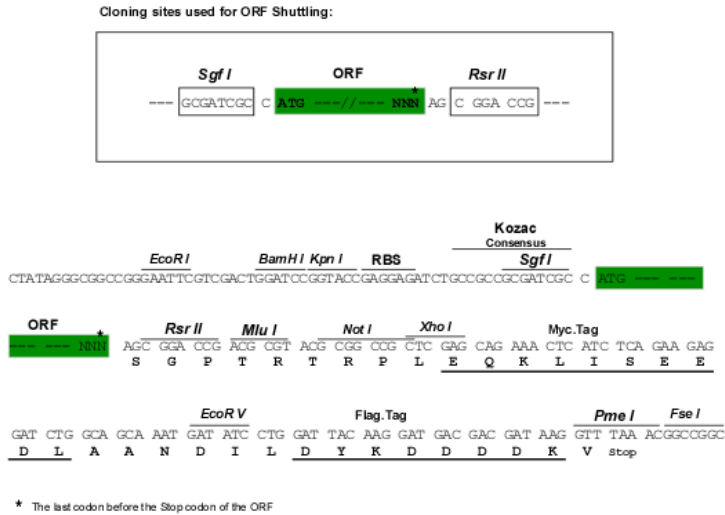
>RC216924 protein sequence
 Red=Cloning site Green=Tags(s)

MAAKTPSSEESGLPKLPVPLQQLATYLQCMRHLVSEEQFRKSQAIVQQFGAPGGLGETLQQKLLERQE
 KTANWVSEYWLNDMYLNNRLALPVNSSPAVIFARQHFPGTDDQLRFAASLISGVLVSYKALLDSHSIPTDC
 AKGQLSGQPLCMKQYYGLFSSYRLPGHTQDTLVAQNSSIMPEPEHVIVACCNQFFVLDVIVNFRRLSEGD
 LFTQLRKIVKMASNEDERLPPIGLLTSDGRSEWAEARTVLVKDSTNRDSLMIERICLVLCLDAPGGVEL
 SDTHRALQLLHGGYSKNGANRWYDKSLQFVVGRTDGTGCVVCEHSPFDGIVLVQCTEHLKHMTOSSRKL
 IRADSVSELPAPRRLRWKCSPEIQGHLASSAEKLQRIVKNLDFIVYKFDNYGKTFIKKQKCPDAFIQVA
 LQLAFYRLHRRLLVPTYESASIRRFQEGRVNIRSATPEALAFVRAVTDHKAAPASEKLLLLKDAIRAQT
 AYTVMAITGMAIDNHLLALRELARAMCKELPEMFDETYLMSNRFVLSQVPTTTEMFCYGPVVPNGY
 GACYNPQPETILFCISSFHCKETSSSKFAKAVEESLIDMRDLCSLLPPTESKPLATKEKATRPSQGHQP

SGP**TRTRPLEQKLI**SEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-RsrII

Cloning Scheme:



ACCN: NM_020984

ORF Size: 1890 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_020984.3](#), [NP_066264.3](#)

RefSeq Size: 2124 bp

RefSeq ORF: 1893 bp

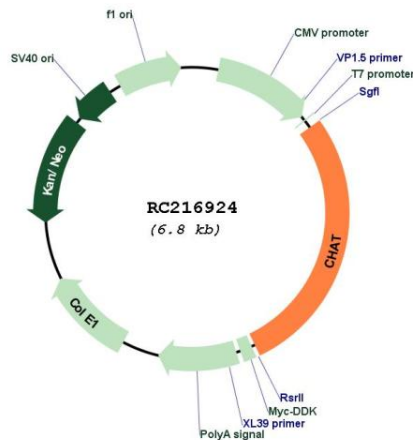
Locus ID: 1103

UniProt ID: [P28329](#)

Cytogenetics: 10q11.23
Protein Families: Druggable Genome
Protein Pathways: Glycerophospholipid metabolism
MW: 70.4 kDa

Gene Summary: This gene encodes an enzyme which catalyzes the biosynthesis of the neurotransmitter acetylcholine. This gene product is a characteristic feature of cholinergic neurons, and changes in these neurons may explain some of the symptoms of Alzheimer's disease. Polymorphisms in this gene have been associated with Alzheimer's disease and mild cognitive impairment. Mutations in this gene are associated with congenital myasthenic syndrome associated with episodic apnea. Multiple transcript variants encoding different isoforms have been found for this gene, and some of these variants have been shown to encode more than one isoform. [provided by RefSeq, May 2010]

Product images:



Circular map for RC216924