

Product datasheet for **SC304353**

Acetylcholinesterase (ACHE) (NM_015831) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Acetylcholinesterase (ACHE) (NM_015831) Human Untagged Clone
Tag:	Tag Free
Symbol:	Acetylcholinesterase
Synonyms:	ACEE; ARACHE; N-ACHE; YT
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL5</u>
E. coli Selection:	Ampicillin (100 ug/mL)



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Fully Sequenced ORF: >OriGene sequence for NM_015831 edited
 GAACATCGGCCGCTCCAGCTCCCGCGCGCCCGGCCCGCCGGCTCGGCCGCTCAG
 CAGACGCCGCTGCCCTGCAGCCATGAGGCCCCCGAGTGTCTGTGCACACGCCCTCC
 TGGCTTCCCCTCTCTCTCTCTCTCTGGCTCTGGGTGGAGGAGTGGGGCTGAGG
 GCCGGGAGGATGCAGAGCTGCTGGTGACGGTGCCTGGGGCCGGCTGCGGGGCATTCCG
 TGAAGACCCCGGGGGCCCTGTCTCTGCTTTCTGGGCATCCCCTTTGCGGAGCCACCA
 TGGGACCCCGTCTTTCTGCCACCGGAGCCCAAGCAGCCTTGGTCAGGGGTGGTAGAC
 CTACAACCTTCCAGAGTGTCTGTACCAATATGTGGACACCCTATACCCAGGTTTTGAGG
 GCACCGAGATGTGAACCCCAACCGTGAGCTGAGCGAGGACTGCCTGTACCTCAACGTGT
 GGACACCATACCCCGGCTACATCCCCACCCCTGTCTCTGTGGATCTATGGGGGTG
 GCTTCTACAGTGGGGCTCTCTTGGACGTGTACGATGGCCGCTTCTTGGTACAGGCCG
 AGAGGACTGTGCTGGTGTCCATGAACTACCGGTGGGAGCCTTTGGCTTCTGCGCCTGC
 CGGGGAGCCGAGAGGCCCGGCAATGTGGTCTCTGGATCAGAGGCTGGCCCTGCAGT
 GGGTGCAGGAGAAGTGGCAGCCTTCGGGGGTGACCCGACATCAGTGACGCTGTTTGGG
 AGAGCGCGGGAGCCGCTCGGTGGGCATGCACCTGCTGTCCCGCCAGCCGGGGCTGT
 TCCACAGGGCCGTGCTGCAGAGCGGTGCCCAATGGACCCTGGGCCACGGTGGGATGG
 GAGAGGCCGTCGAGGGCCACGAGCTGGCCACCTTGTGGGCTGTCTCCAGGCGGCA
 CTGGTGGGAATGACACAGAGCTGGTAGCCTGCCTTCGGACACGACCAGCGCAGGTCTGG
 TGAACCACGAATGGACGTGCTGCCTCAAGAAAGCGTCTTCCGGTTCTCTTCGTGCCTG
 TGGTAGATGGAGACTTCTCAGTGACACCCAGAGGCCCTCATCAACGCGGGAGACTTCC
 ACGGCCTGCAGGTGCTGGTGGGTGTGGTGAAGGATGAGGGCTCGATTTTCTGGTTTACG
 GGGCCCCAGGCTTCAGCAAAGACAACGAGTCTCTCATCAGCCGGCCGAGTTCCTGGCCG
 GGGTGCAGGTCGGGGTCCCCAGGTAAGTGACCTGGCAGCCGAGGCTGTGGTCTGCATT
 ACACAGACTGGCTGCATCCCGAGGACCCGGCACGCTGAGGGAGGCCCTGAGCGATGTGG
 TGGCGCACCAATGTCGTGTGCCCGTGGCCAGCTGGCTGGGCGACTGGCTGCCCAGG
 GTGCCCGGTCTACGCTACGTCTTGAACACCGTGTCTCCACGCTCTCTGGCCCTGT
 GGATGGGGGTGCCCCACGGCTACGAGATCGAGTTCATCTTTGGGATCCCCCTGGACCCCT
 CTCGAACTACACGGCAGAGGAGAAAATCTTCGCCAGCGACTGATGCGATACTGGGCCA
 ACTTTGCCCGCACAGGGATCCCAATGAGCCCCGAGACCCCAAGGCCCAATGGCCCC
 CGTACACGGCGGGGGCTCAGCAGTACGTTAGTCTGGACCTGCGGGCGCTGGAGGTGCGGC
 GGGGGCTGCGCGCCAGGCTGCGCCTTCTGGAACCGTCTCTCCCAAATTGCTCAGCG
 CCACCGCTCGGAGGCTCCAGCACCTGCCAGGCTTACCCATGGGGAGGCTGCTCCGA
 GGCCCGGCTCCCTGCCCCCTCTCTCTCTCCACCAGTCTCTCTCTCTCTCTCTCC
 ACCTCCGGCGGCTGTGAACACGGCTCTTCCCCTACGGCCACAGGG

- Restriction Sites:** Please inquire
- ACCN:** NM_015831
- Insert Size:** 2000 bp
- OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
- OTI Annotation:** The ORF of this clone has been fully sequenced and found to be a perfect match to NM_015831.1.
- 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_015831.1](#), [NP_056646.1](#)

RefSeq Size: 2909 bp

RefSeq ORF: 1854 bp

Locus ID: 43

UniProt ID: [P22303](#)

Cytogenetics: 7q22.1

Protein Families: Druggable Genome

Protein Pathways: Glycerophospholipid metabolism

Gene Summary: Acetylcholinesterase hydrolyzes the neurotransmitter, acetylcholine at neuromuscular junctions and brain cholinergic synapses, and thus terminates signal transmission. It is also found on the red blood cell membranes, where it constitutes the Yt blood group antigen. Acetylcholinesterase exists in multiple molecular forms which possess similar catalytic properties, but differ in their oligomeric assembly and mode of cell attachment to the cell surface. It is encoded by the single ACHE gene, and the structural diversity in the gene products arises from alternative mRNA splicing, and post-translational associations of catalytic and structural subunits. The major form of acetylcholinesterase found in brain, muscle and other tissues is the hydrophilic species, which forms disulfide-linked oligomers with collagenous, or lipid-containing structural subunits. The other, alternatively spliced form, expressed primarily in the erythroid tissues, differs at the C-terminal end, and contains a cleavable hydrophobic peptide with a GPI-anchor site. It associates with the membranes through the phosphoinositide (PI) moieties added post-translationally. AChE activity may constitute a sensitive biomarker of RBC ageing in vivo, and thus, may be of aid in understanding the effects of transfusion[provided by RefSeq, Sep 2019]

Transcript Variant: The splice variant E4-E5 is primarily expressed in erythroid tissues, and appears to encode the PI-linked form of acetylcholinesterase. It results from tissue-specific alternative splicing of exon 4 to exon 5.