

**Product datasheet for SC337008**

**Acetylcholinesterase (ACHE) (NM\_001302621) Human Untagged Clone**

**Product data:**

**Product Type:** Expression Plasmids  
**Product Name:** Acetylcholinesterase (ACHE) (NM\_001302621) Human Untagged Clone  
**Tag:** Tag Free  
**Symbol:** ACHE  
**Synonyms:** ACEE; ARACHE; N-ACHE; YT  
**Vector:** pCMV6-Entry (PS100001)  
**Fully Sequenced ORF:** >SC337008 representing NM\_001302621.  
 Blue=Insert sequence Red=Cloning site Green=Tag(s)

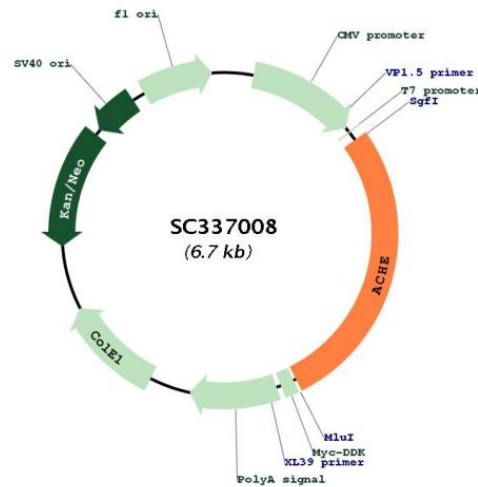
```
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CCCCTCCTCCTCCACAGCTTCTCCTCCTCCTCCTCCTCCTCCACCTCCGGCGGTGTGA
```



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Restriction Sites: Sgfl-MluI

Plasmid Map:



ACCN: NM\_001302621

Insert Size: 1854 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).

**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\\_001302621.1](#)

RefSeq Size: 2299 bp

RefSeq ORF: 1854 bp

Locus ID: 43

UniProt ID: [P22303](#)

Cytogenetics: 7q22.1

Protein Families: Druggable Genome

Protein Pathways: Glycerophospholipid metabolism

**MW:** 67.4 kDa

**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:** This variant (4) uses an alternate splice site in the 5' UTR, lacks an exon in 3' UTR and 3' coding region and uses an alternate terminal exon, compared to isoform E4-E6. The encoded isoform (4) is longer and has a distinct C-terminus compared to isoform E4-E6.

**Sequence Note:** This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.