

Product datasheet for **RG239092**

Acetylcholinesterase (ACHE) (NM_001302622) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Acetylcholinesterase (ACHE) (NM_001302622) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Acetylcholinesterase
Synonyms:	ACEE; ARACHE; N-ACHE; YT
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG239092 representing NM_001302622.
 Blue=ORF Red=Cloning site Green=Tag(s)

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GCTCGTTTAGTGAACCGTCAGAATTTTGTAAACGACTCACTATAGGGCGGCCGGGAATTCGTGACTG
GATCCGGTACCGAGGAGATCTGCCGCCGCGATCGCC
ATGAGGCCCGCAGTGTCTGCTGCACACGCCTTCCCTGGCTTCCCCTCTTCTCTCTCTCTGG
CTCCTGGGTGGAGGAGTGGGGCTGAGGGCCGGAGGATGCAGAGCTGCTGGTGACGGTGGTGGGGC
CGCTGCGGGGCATTGCGCTGAAGACCCCGGGGCCCTGTCTGCTTTCTGGGCATCCCTTTGCG
GAGCCACCATGGGACCCGTCGCTTTCTGCCACCGAGCCCAAGCAGCCTTGGTCAGGGGTGGTAGAC
GCTACAACCTTCCAGAGTGTCTGCTACCAATATGTGGACACCCTATACCCAGTTTTGAGGGACCGAG
ATGTGGAACCCCAACCGTGAAGTGAAGTGAAGTGAAGTGAAGTGAAGTGAAGTGAAGTGAAGTGAAGT
CCTACATCCCCACCCCTGTCTCTGCTGGATCTATGGGGTGGCTTCTACAGTGGGGCCTCTCTTTG
GACGTGTACGATGGCCGCTTCTGGTACAGGCCGAGAGGACTGTGCTGGTGTCCATGAACCTACCGGTG
GGAGCCTTTGGCTTCTGGCCCTGCCGGGAGCCGAGAGGCCCGGGCAATGTGGGTCTCTGGATCAG
AGGCTGGCCCTGCAGTGGTGCAGGAGAAGTGGCAGCCTTCGGGGTGACCCGACATCAGTGACGCTG
TTTGGGGAGAGCGGGAGCCGCTCGGTGGGCATGCACCTGCTGTCCCCGCCAGCCGGGGCTGTTC
CACAGGGCCGTGCTGCAGAGCGGTGCCCAATGGACCCTGGGCCACGGTGGGCATGGGAGAGGCCCGT
CGCAGGGCCACGAGCTGGCCACCTTGTGGGCTGTCTCCAGGGCGCACTGGTGGGAATGACACAGAG
CTGGTAGCCTGCCTTCGGACACGACCGCAGGCTCCTGGTGAACCACGAATGGCAGTGTCTGCTCAA
GAAAGCGTCTTCCGGTCTCTCTGCTGCTGTGGTAGAGTGGAGACTTCTCAGTGACACCCAGAGGCC
CTCATCAACGCGGGAGACTTCCACGGCTGCAGGTGCTGGTGGTGGTGGTGAAGGATGAGGGCTCGTAT
TTTCTGGTTACGGGGCCAGGCTTCCAGAAAGACAACGAGTCTCTCATCAGCCGGCCGAGTTCCATG
GCCGGGTGCGGGTCCGGGTTCCCGAGTAAAGTAAAGTAAAGTAAAGTAAAGTAAAGTAAAGTAAAGTAA
GACTGGCTGCATCCCGAGGACCCGACCGCTGAGGGAGGCCCTGAGCGATGTGGTGGGGACCAAT
GTCGTGTGCCCGTGGCCAGCTGGCTGGGCGACTGGCTGCCAGGGTGGCCGGTCTACGCCACGTC
TTTGAACACCGTCTTCCACGCTCTCTGGCCCTGTGGATGGGGTGGCCACGGCTACGAGATCGAG
TTCATCTTTGGATCCCCCTGGACCCCTCTCGAAACTACACGGCAGAGGAGAAAACTTCGCCACGCA
CTGATGCGATACTGGCCAACTTTCGCCGACAGGGGATCCCAATGAGCCCGAGACCCCAAGGCCCA
CAATGGCCCGTACACGGCGGGGCTCAGCAGTACGTTAGTCTGGACCTGCGGCCGCTGGAGGTGCGG
CGGGGCTGCGGCCAGGCTGCGCTTCTGGAACCGCTTCTCCCAAATTGCTCAGCCACCCGAC
ACGCTCGACGAGCGGAGCGCCAGTGAAGGCCGAGTTCACCGCTGGAGCTCTACATGGTGCAGCTGG
AAGAACCAGTTCGACCACTACAGCAAGCAGGATCGCTGCTCAGACCTG
ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAAAC
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Protein Sequence:

>Peptide sequence encoded by RG239092
 Blue=ORF Red=Cloning site Green=Tag(s)

```
MRPPQCLLHTPSLASPLLLLLLWLLGGVGVAEGREDAELLVTVRGRRLRGIRLKTGGPVSAFLGIPFA
EPPMGPRRFLPPEPKQPWSGVVDATTFQSVCYQYVDTLYPGFEGTEMWNPRELSEDCLYLNWVTPYPR
PTSPTPVLVWIYGGGFYSGASSLDVYDGRFLVQAERTVLVSMNYRVGAFGLALPGSREAPGNVGLLDQ
RLALQWVQENVAAFGGDPTSVTLFGESAGAAVGMHLLSPPSRGLFHRAVLQSGAPNGPWATVGMGEAR
RRATQLAHLVGCPPGGTGGNDTELVACLRTRPAQVLVNHVHVLVQESVFRFSFVPPVVDGDFLSDTPEA
LINAGDFHGLQVLVGVKDEGSYFLVYGAPGFSKDNESLISRAEFLAGVRVGVQVSDLAEEAVLHYT
DWLHPEDPARLREALSDVVGDHNVVCPVAQLAGRLAAQGARVYAYVFEHRASTLSWPLWMGVPHGYEIE
FIFGIPLDPSRNYTAEKIFAQRLMRYWANFARTGDPNEPRDPKAPQWPPYTAGAQQYVSLDLRPLEVR
RGLRAQACAFWNRFLPKLLSATDTLDEAERQWKAEFHRWSSYMHWNQFDHYSKQDRCSDL
TRTRPLEMESDESGLPAMEIECRITGTLNGVEFELVGGGEGTPEQGRMTNKMSTKGALTFSPYLLSHV
MGYGFYHFGTYPYSGYENPFLHAINNGGYNTRIEKYEDGGVLHVSFSYRYEAGRVIGDFKVMGTGFPE
SVIFTDKIIIRSNATVEHLHPMGDNDLDGSFTRTFSLRDGGYSSVVDSHMFKSAIHPSILQNGGPMFA
FRRVEEDHSNTELGIVEYQHAFKTPDADAGEERV
```

Restriction Sites:

Sgfl-MluI

Cloning Scheme:



ACCN: NM_001302622

ORF Size: 1842 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).

RefSeq: [NM_001302622.2](#)

RefSeq Size: 2156 bp

RefSeq ORF: 1845 bp

Locus ID: 43

UniProt ID: [P22303](#)

Cytogenetics: 7q22.1

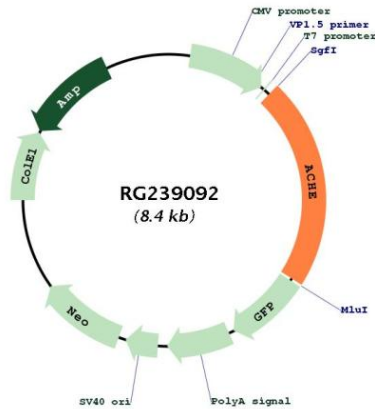
Protein Families: Druggable Genome

Protein Pathways: Glycerophospholipid metabolism

MW: 67.8 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]

Product images:


Circular map for RG239092