

Product datasheet for **RC202198**

Butyrylcholinesterase (BCHE) (NM_000055) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Butyrylcholinesterase (BCHE) (NM_000055) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Butyrylcholinesterase
Synonyms:	BCHE1; CHE1; CHE2; E1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC202198 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGCATAGCAAAGTCACAATCATATGCATCAGATTCTCTTTTGGTTCTTTTGGCTCGCATGCTTATTG
 GGAAGTCACATACTGAAGATGACATCATAATTGCAACAAAGAATGGAAAAGTCAGAGGGATGAACCTTGAC
 AGTTTTTGGTGGCACGGTAACAGCCTTTCTTGGAATCCCTATGCACAGCCACCTCTTGGTAGACTTCGA
 TTCAAAAAGCCACAGTCTCTGACCAAGTGGTCTGATATTTGGAATGCCACAAAATATGCAAATCTTGCT
 GTCAGAACATAGATCAAAGTTTTCCAGGCTTCCATGGATCAGAGATGTGGAACCCAAACACTGACCTCAG
 TGAAGACTGTTTATCTAAATGTATGGATTCCAGCACCTAAACCAAAAAATGCCACTGTATTGATATGG
 ATTTATGGTGGTGGTTTTCAAAGTGAACATCATCTTTACATGTTTATGATGGCAAGTTCTGGCTCGGG
 TTGAAAGAGTTATTGTAGTGTCAATGAACATAGGGTGGGTGCCCTAGGATTCCTAGCTTTGCCAGGAAA
 TCCTGAGGCTCCAGGGAACATGGGTTTTATTTGATCAACAGTTGGCTCTTCAGTGGGTTCAAAAAATATA
 GCAGCCTTTGGTGGAAATCCTAAAAGTGAACCTCTTTGGAGAAAGTCAGGAGCAGCTTCAGTTAGCC
 TGCATTTGCTTTCTCTGGAAGCCATTCATTGTTCAACAGAGCCATTCTGCAAAGTGGATCCTTTAATGC
 TCCTTGGGCGGTAACATCTCTTTATGAAGCTAGGAACAGAACGTTGAACTTAGCTAAATTGACTGGTTGC
 TCTAGAGAGAATGAGACTGAAATAATCAAGTGTCTTAGAAATAAAGATCCCAAGAAATCTTCTGAATG
 AAGCATTGTGTGCCCTATGGGACTCCTTTGTGACGAACTTTGGTCCGACCGTGGATGGTGGTATTTCT
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 AAAGATGAAGGGACAGCTTTTTTAGTCTATGGTCTCTGGCTTCAGCAAAGATAACAATAGTATCATAA
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 GTTGGGGATTATAATTTTATATGCCCTGCCTGGAGTTCACCAAGAAGTTCTCAGAAATGGGGAAATAATG
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 CTATGAAATTTGAATTTGTCTTTGGTTTACCTCTGGAAAGAAGAGATAATTACACAAAAGCCGAGGAAAT
 TTGAGTAGATCCATAGTGAACGGTGGGCAATTTTGCAAAATATGGGAATCCAAATGAGACTCAGAACA
 ATAGCACAAAGCTGGCCTGTCTTCAAAGCACTGAACAAAATATCTAACCTTGAATACAGAGTCAACAAG
 AATAATGACGAACTACGTGCTCAACAATGTCGATTCTGGACATCATTTTTTCAAAGTCTTGGAAATG
 ACAGGAAATATTGATGAAGCAGAAATGGGAGTGGAAAGCAGGATCCATCGCTGGAACAATTACATGATGG
 ACTGGAATAATCAATTAACGATTACACTAGCAAGAAAGAAAGTTGTGTGGGTCTC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC202198 protein sequence
 Red=Cloning site Green=Tags(s)

MHSKVTIICIRFLFWLLL CMLIGKSHTEDDII IATKNGKVRGMNLTVFGGTVTAF LGIPYAQPPLGRLR
 FKPKQSLTKWSDIWNATKYANSCQNI DQSFPGFHGSEMWNPNL DLSEDCLYLNWV IAPKPKNATVLIW
 IYGGGFQGTSSLHVDGKFLARVERVI VVSMNYRVGALGFLALPGNPEAPGNMGLFDQQLALQWVQKNI
 AAFGGNPKSVTLFGESAGAASVSLHLL SPGSHSLFTRAILQSGSFNAPWAVTSLYEARNRTLNLAKLTGC
 SRENETEIIKCLRNDPQEILLNEAFVVPYGTPLSVNFGPTVDGDFLTDMPDILLELQGFKKTQILVGVN
 KDEGTAFLVYGAPGFSKDNNSII TRKEFQEGLKIFFPGVSEFGKESILFHYTDWVDDQRPENYREALGDV
 VGDYNFICPALEF TKKFEWGNNAFFYFEHRSSKLPWPEWMGMHGYEIEFVFG LPLERRDNYTKAEI
 LRSRIVKRWANFAKYGPNETQNNSTSWPVFKSTEQKYLTLNTESTRIMTKLRAQQCRFWTSFFPKVLEM
 TGNIDEAEWEWKAGFHRWNNYMDWKNQFN DYTSSKKESECVGL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

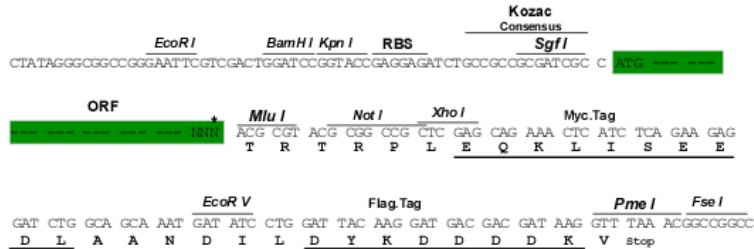
Chromatograms:

https://cdn.origene.com/chromatograms/mk6310_d01.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_000055

ORF Size: 1806 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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM_000055.4](#)

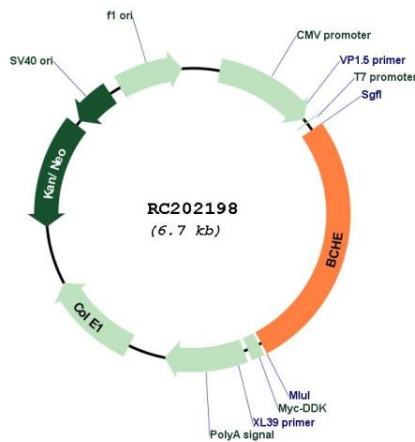
RefSeq Size: 2461 bp

RefSeq ORF: 1809 bp

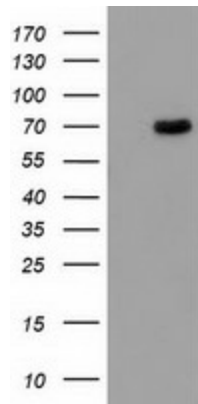
Locus ID: 590
UniProt ID: [P06276](#)
Cytogenetics: 3q26.1
Domains: COesterase
Protein Families: Druggable Genome, Transmembrane
MW: 68.4 kDa

Gene Summary: This gene encodes a cholinesterase enzyme and member of the type-B carboxylesterase/lipase family of proteins. The encoded enzyme exhibits broad substrate specificity and is involved in the detoxification of poisons including organophosphate nerve agents and pesticides, and the metabolism of drugs including cocaine, heroin and aspirin. Humans homozygous for certain mutations in this gene exhibit prolonged apnea after administration of the muscle relaxant succinylcholine. [provided by RefSeq, Jul 2016]

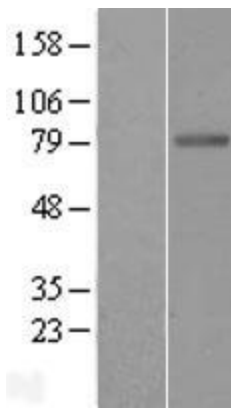
Product images:



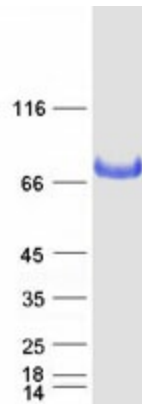
Circular map for RC202198



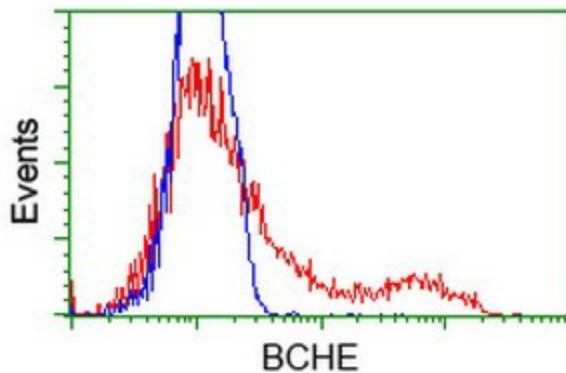
HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY BCHE (Cat# RC202198, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-BCHE (Cat# [TA502307]). Positive lysates [LY424950] (100ug) and [LC424950] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY424950]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC202198 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified BCHE protein (Cat# [TP302198]). The protein was produced from HEK293T cells transfected with BCHE cDNA clone (Cat# RC202198) using MegaTran 2.0 (Cat# [TT210002]).



HEK293T cells transfected with either RC202198 overexpress plasmid (Red) or empty vector control plasmid (Blue) were immunostained by anti-BCHE antibody ([TA502307]), and then analyzed by flow cytometry.