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Recombinant human Acetylcholinesterase/ACHE protein

Catalog Number: ATGP4058

PRODUCT INFORMATION

Expression system

HEK293

Domain

32-614aa

UniProt No.

P22303

NCBI Accession No.

NP 000656.1

Alternative Names

AChE, ACEE, ACES_HUMAN, Acetylcholinesterase, ACHE, ARACHE, N-ACHE, VT, Acetylcholinesterase isoform E4-E6

PRODUCT SPECIFICATION

Molecular Weight

65.6kDa (592aa)

Concentration

0.25mg/ml (determined by Absorbance at 280nm)

Formulation

Liquid. In Phosphate-Buffered Saline (pH 7.4) containing 10% glycerol

Purity

> 95% by SDS - PAGE

Endotoxin level

< 1 EU per 1ug of protein (determined by LAL method)

Biological Activity

Specific activity is > 6,000 nmol/min/mg, and is defined as the amount of enzyme that cleaves 1.0 nmol acetylthiocholine per minute at pH7.5 at 25C.

Tag

His-Tag

Application

SDS-PAGE, Enzyme Activity

Storage Condition

Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.



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BACKGROUND

Description

ACHE, also known as Acetylcholinesterase, is a member of the type-B carboxylesterase/lipase family. It is an enzyme that catalyzes the breakdown of acetylcholine and of some other choline esters that function as neurotransmitters. During neurotransmission, ACH is released from the presynaptic neuron into the synaptic cleft and binds to ACH receptors on the post-synaptic membrane, relaying the signal from the nerve. ACHE, also located on the post-synaptic membrane, terminates the signal transmission by hydrolyzing ACH. This protein is thought to be involved in the pathology of Alzheimers disease (AD) by accelerating the assembly of A beta peptides into fibrillar species through forming complexes with A beta via the peripheral anionic site on ACHE. ACHE inhibitors have been used to delay symptoms of AD patients by virtue of their ability to enhance ACH availability, as well as reduce amyloidogenesis and subsequent neurotoxicity. Recombinant human ACHE, fused to His-tag at C-terminus, was expressed in HEK293 cell and purified by using conventional chromatography techniques.

Amino acid Sequence

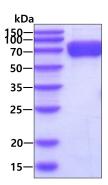
<DGS>EGREDAE LLVTVRGGRL RGIRLKTPGG PVSAFLGIPF AEPPMGPRRF LPPEPKQPWS GVVDATTFQS VCYQYVDTLY PGFEGTEMWN PNRELSEDCL YLNVWTPYPR PTSPTPVLVW IYGGGFYSGA SSLDVYDGRF LVQAERTVLV SMNYRVGAFG FLALPGSREA PGNVGLLDQR LALQWVQENV AAFGGDPTSV TLFGESAGAA SVGMHLLSPP SRGLFHRAVL QSGAPNGPWA TVGMGEARRR ATQLAHLVGC PPGGTGGNDT ELVACLRTRP AQVLVNHEWH VLPQESVFRF SFVPVVDGDF LSDTPEALIN AGDFHGLQVL VGVVKDEGSY FLVYGAPGFS KDNESLISRA EFLAGVRVGV PQVSDLAAEA VVLHYTDWLH PEDPARLREA LSDVVGDHNV VCPVAQLAGR LAAQGARVYA YVFEHRASTL SWPLWMGVPH GYEIEFIFGI PLDPSRNYTA EEKIFAQRLM RYWANFARTG DPNEPRDPKA PQWPPYTAGA QQYVSLDLRP LEVRRGLRAQ ACAFWNRFLP KLLSATDTLD EAERQWKAEF HRWSSYMVHW KNOFDHYSKO DRCSDL

General References

Grisaru, D. et al, (1999) Eur. J. Biochem. 264:672-686. Harry M. Greenblatt et al, (2003) J. Mol. Neurosci. 20:369-383.

DATA

SDS-PAGE



3ug by SDS-PAGE under reducing condition and visualized by coomassie blue stain

