

Mouse Acetylcholinesterase / ACHE Protein (His Tag)

Catalog Number: 50543-M08H



Sino Biological Inc.

Biological Solution Specialist

General Information

Gene Name Synonym:

mE1a, mE1b, mE1c, mE1c-long, mE1d, mE1d', mE1e

Protein Construction:

A DNA sequence encoding the mouse ACHE (NP_033729.1) (Met 1-Leu 614) was expressed, with a polyhistidine tag at the C-terminus.

Source: Mouse

Expression Host: Human Cells

QC Testing

Purity: > 97 % as determined by SDS-PAGE

Bio-Activity

Measured by its ability to cleave Acetylthiocholine.
The specific activity is > 250 nmols/min/μg.

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Glu 32

Molecular Mass:

The recombinant mouse ACHE consists of 594 amino acids and has a predicted molecular mass of 66.2 kDa as estimated in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

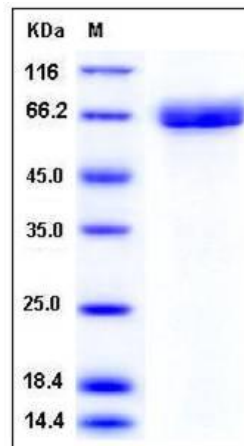
Usage Guide

Storage:

Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

SDS-PAGE:



Reconstitution:

Detailed reconstitution instructions are sent along with the products.

Protein Description

Acetylcholinesterase, also known as ACHE, is an enzyme that degrades (through its hydrolytic activity) the neurotransmitter acetylcholine, producing choline and an acetate group. It is mainly found at neuromuscular junctions and cholinergic synapses in the central nervous system, where its activity serves to terminate synaptic transmission. ACHE 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 attachment to the cell surface. ACHE interacts with PRIMA1. The interaction with PRIMA1 is required to anchor it to the basal lamina of cells and organize into tetramers. ACHE has a very high catalytic activity. Each molecule of ACHE degrades about 25000 molecules of acetylcholine per second. The choline produced by the action of ACHE is recycled. It is transported, through reuptake, back into nerve terminals where it is used to synthesize new acetylcholine molecules.

References

1. Wilson M.D. et al., 2001, Nucleic Acids Res. 29: 1352-1365.
2. Yang L. et al., 2002, Neurosci. Res. 42: 261-268.
3. Hillier L.W. et al., 2003, Nature. 424: 157-164.
4. Ota T. et al., 2004, Nat. Genet. 36: 40-45.

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