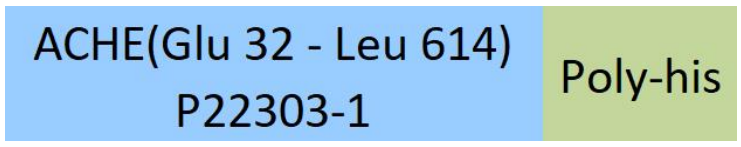
Synonym

acetylcholinesterase (Yt blood group); Acetylcholinesterase; ACHE; apoptosis-related acetylcholinesterase; ARACHE; EC 3.1.1; EC 3.1.1.7; N-ACHE; Yt blood group; YT

Source

Human ACHE, His Tag (AHE-H52H3) is expressed from human 293 cells (HEK293). It contains AA Glu 32 - Leu 614 (Accession # P22303-1).
Predicted N-terminus: Glu 32

Molecular Characterization



This protein carries a polyhistidine tag at the C-terminus.

The protein has a calculated MW of 66.5 kDa. The protein migrates as 65-80 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 1.0 EU per μg by the LAL method.

Purity

>95% as determined by SDS-PAGE.

Formulation

Lyophilized from 0.22 μm filtered solution in PBS, pH7.4. Normally trehalose is added as protectant before lyophilization.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage

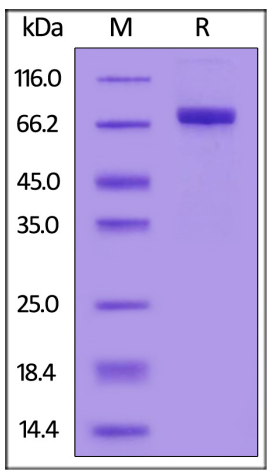
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



Human ACHE, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

Bioactivity

Measured by its ability to cleave Acetylthiocholine. The specific activity is >500 nmol/min/μg, as measured under the described conditions(QC tested).

Background

The enzyme acetylcholinesterase, also known as AChE or acetylhydrolase, is the primary cholinesterase in the body. It is a serine hydrolase whose primary function is to catalyzes the breakdown of acetylcholine(ACh) and of some other choline esters that function as neurotransmitters. AChE is found at mainly neuromuscular junctions and in chemical synapses of the cholinergic type, where its activity serves to terminate synaptic transmission. Acetylcholine deficit has been found in Alzheimer's disease (AD) ans is associated with cognetive decline. Therefore, AChE has been reported to be a viable therapeutic target for the treatment of AD and other dementias. To this end, acetylcholinesterase inhibitors (AChEIs) are commonly used.

Clinical and Translational Updates

Please contact us via TechSupport@acrobiosystems.com if you have any question on this product.