Recombinant Mouse Acetylcholinesterase/ACHE Protein (His Tag)

Catalog Number: PKSM040622

Note: *Centrifuge before opening to ensure complete recovery of vial contents.*

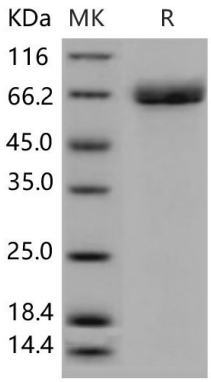
Description

Species	Mouse
Source	HEK293 Cells-derived Mouse Acetylcholinesterase/ACHE protein Met 1-Leu 614, with an C-terminal His
Calculated MW	66.2 kDa
Observed MW	66.2 kDa
Accession	NP_033729.1
Bio-activity	Measured by its ability to cleave Acetylthiocholine. The specific activity is > 250 nmols/min/μg.

Properties

Purity	> 97 % as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 EU per μg of the protein as determined by the LAL method.
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80 ℃. Reconstituted protein solution can be stored at 4-8℃ for 2-7 days. Aliquots of reconstituted samples are stable at < -20℃ for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from sterile PBS, pH 7.4 Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
Reconstitution	Please refer to the printed manual for detailed information.

Data



> 97 % as determined by reducing SDS-PAGE.

Background

Acetylcholinesterase, also known as ACHE, is an enzyme that degrades the neurotransmitter acetylcholine, producing choline and an acetate group. ACHE plays a crucial role in nerve impulse transmission at cholinergic synapses by rapid hydrolysis of the neurotransmitter acetylcholine (ACh). ACHE appears to be a potential therapeutic target at muscle injuries including organophosphate myopathy. It is an externally oriented membrane-bound enzyme and its main physiological role is termination of chemical transmission at cholinergic synapses and secretory organs by rapid hydrolysis of the neurotransmitter acetylcholine (ACh). ACHE plays important roles in the cholinergic system, and its dysregulation is involved in a variety of human diseases. ACHE was significantly down-regulated in the cancerous tissues of 69.2% of hepatocellular carcinoma (HCC) patients, and the low ACHE expression in HCC was correlated with tumor aggressiveness, an elevated risk of postoperative recurrence, and a low survival rate. Both the recombinant ACHE protein and the enhanced expression of ACHE significantly inhibited HCC cell growth in vitro and tumorigenicity in vivo. ACHE as a tumor growth suppressor in regulating cell proliferation, the relevant signaling pathways, and the drug sensitivity of HCC cells. Thus, ACHE is a promising independent prognostic predictor for HCC recurrence and the survival of HCC patients. ACHE is inhibited by organophosphate and carbamate pesticides. However, this enzyme is only slightly inhibited by organophosphorothionates.

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