

PRODUCT INFORMATION



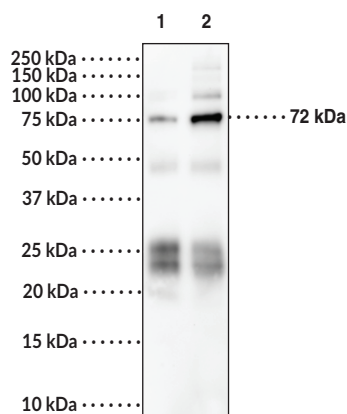
AChE (eel) Monoclonal Antibody (Clone 5E2)

Item No. 23855

Overview and Properties

Contents:	This vial contains 500 µg of protein G-purified IgG
Synonym:	Acetylcholinesterase
Immunogen:	Purified native AChE electric eel protein
Species Reactivity:	(+) Eel
Uniprot No.:	O42275
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	PBS, pH 7.2 with 50% glycerol and 0.02% sodium azide
Clone:	5E2
Host:	Mouse
Isotype:	IgG2b
Applications:	ELISA and Western blot (WB); the recommended starting dilution is 1:200 for ELISA and WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Image



Lane 1: Purified Native Eel AChE (Lot 1) (200 ng)
Lane 2: Purified Native Eel AChE (Lot 2) (200 ng)

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Acetylcholinesterase (AChE) is a homotetrameric carboxylesterase that is composed of four 70 kDa subunits with each subunit containing a single active site.¹ It is a product of alternative splicing and can be membrane bound *via* a glycosyl-phosphatidylinositol anchor in the membrane or a proline-rich membrane anchor (PRIMA) peptide linker for erythrocyte and synaptic AChE, respectively, or soluble in water, with each form demonstrating identical catalytic activity.² AChE is primarily found in red blood cells as well as at neuromuscular junctions and in the brain at cholinergic synapses where it hydrolyzes acetylcholine to acetate and choline to terminate synaptic transmission.^{2,3} It accelerates amyloid- β ($A\beta$) fibrillogenesis *in vitro* and overexpression of AChE accelerates $A\beta$ plaque formation and disease progression in the Tg2576 transgenic mouse model of Alzheimer's disease.⁴ AChE activity is also increased in islets of Langerhans in rats with diabetes induced by streptozotocin (Item No. 13104). Cayman's AChE (eel) Monoclonal Antibody (clone 5E2) can be used for Western blot and ELISA applications. This antibody recognizes AChE at ~72 kDa from electric eel samples.

References

1. Cartaud, J., Rieger, F., Bon, S., *et al.* Fine structure of electric eel acetylcholinesterase. *Brain Res.* **88(1)**, 127-130 (1975).
2. Stasiuk, M., Janiszewska, A., and Kozubek, A. Phenolic lipids affect the activity and conformation of acetylcholinesterase from *Electrophorus electricus* (Electric eel). *Nutrients* **6(5)**, 1823-1831 (2014).
3. Pohanka, M., Hrabínova, M., Kuca, K., *et al.* Assessment of acetylcholinesterase activity using indoxylacetate and comparison with the standard Ellman's method. *Int. J. Mol. Sci.* **12(4)**, 2631-2640 (2011).
4. Mushtaq, G., Greig, N.H., Khan, J.A., *et al.* Status of acetylcholinesterase and butyrylcholinesterase in Alzheimer's disease and type 2 diabetes mellitus. *CNS Neurol. Disord. Drug Target* **13(8)**, 1432-1439 (2014).

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