

## Product datasheet

# Acetylcholinesterase Assay Kit (Colorimetric) ab138871

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### Overview

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<b>Product name</b>	Acetylcholinesterase Assay Kit (Colorimetric)
<b>Detection method</b>	Colorimetric
<b>Sample type</b>	Cell culture extracts, Cell Lysate, Tissue Lysate
<b>Assay type</b>	Enzyme activity
<b>Sensitivity</b>	1 mU/ml
<b>Assay time</b>	0h 30m
<b>Product overview</b>	Acetylcholinesterase Assay Kit ab138871 provides a convenient colorimetric assay for the detection of AChE activity in blood, cell extracts and other samples from mammals and other species.

The acetylcholinesterase assay protocol uses DTNB to quantify the thiocholine produced from the hydrolysis of acetylthiocholine by AChE. The absorption intensity of DTNB adduct (410 nm) is used to measure the amount of thiocholine formed, which is proportional to the AChE activity.

The assay will detect as little as 0.1 mU AChE in a 100 µL assay volume (1 mU/mL).

Acetylcholinesterase assay protocol summary:

- add standards and samples to wells
- add acetylthiocholine reaction mix and incubate for 10-30 min at room temp
- analyze with a microplate reader

**Notes** Please note this product does not differentiate between acetylcholinesterase (AChE) or butyrylcholinesterase (BChE) activity as both enzymes can hydrolyze acetylcholine. However, an acetylcholinesterase inhibitor like Donepezil hydrochloride can be used as a control.

If you are looking for a fluorometric kit, we recommend [Acetylcholinesterase Assay Kit \(Fluorometric-Green\) \(ab133872\)](#) (Ex/Em = 490/520 nm) or [Acetylcholinesterase Assay Kit \(Fluorometric-Red\) \(ab133873\)](#) (Ex/Em = 540/590 nm).

**Platform** Microplate reader

### Properties

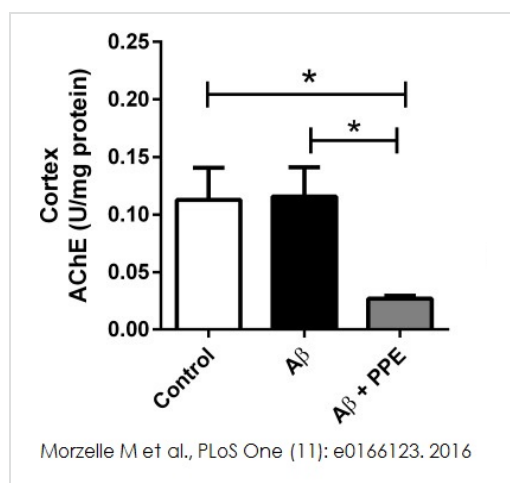
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**Storage instructions** Store at -20°C. Please refer to protocols.

Components	200 tests
Acetylcholinesterase Standard	1 x 5 units
Acetylthiocholine	1 vial
Assay Buffer	1 x 25ml
DTNB	1 vial

<b>Function</b>	Terminates signal transduction at the neuromuscular junction by rapid hydrolysis of the acetylcholine released into the synaptic cleft. Role in neuronal apoptosis.
<b>Tissue specificity</b>	Isoform H is highly expressed in erythrocytes.
<b>Sequence similarities</b>	Belongs to the type-B carboxylesterase/lipase family.
<b>Cellular localization</b>	Cell membrane; Cell junction > synapse. Secreted. Cell membrane and Nucleus. Only observed in apoptotic nuclei.

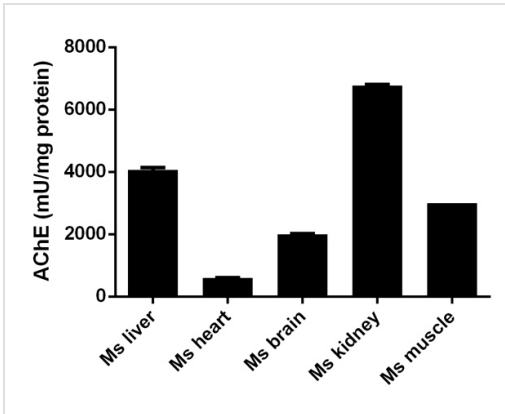
## Images



ab138871 was used to determine AChE activity in the cortex and in the hippocampus. AChE activity was measured at 410 nm.

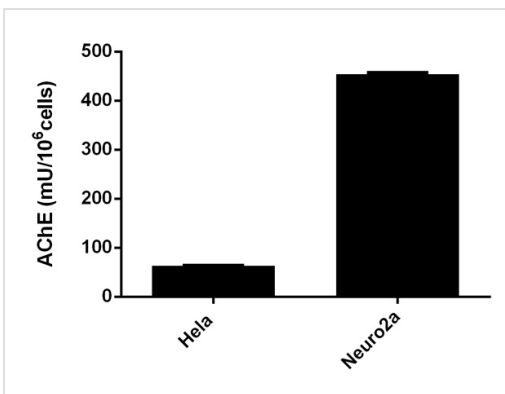
Evaluation of acetylcholinesterase (AChE) activity using ab138871

Morzelle M et al., PLoS One, 11(11). Fig 6. doi: 10.1371/journal.pone.0166123



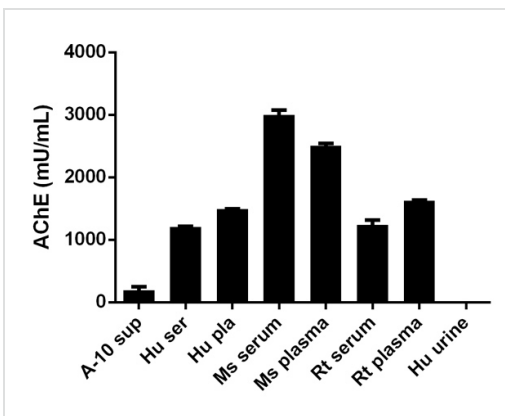
AChE measured in mouse tissue lysates showing quantity (mU) per mg protein of tested sample

Functional Studies - Acetylcholinesterase Assay Kit (ab138871)



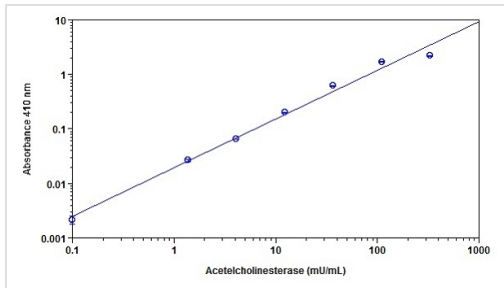
AChE measured in cell lysates showing quantity (mU) per 1 mln of tested cells

Functional Studies - Acetylcholinesterase Assay Kit (ab138871)



AChE measured in biological fluids showing quantity (mU) per mL of tested sample

Functional Studies - Acetylcholinesterase Assay Kit (ab138871)



Sample Standard Curve for Acetylcholinesterase

Acetylcholinesterase dose response was measured in a white/clear bottom 96-well plate with ab138871 Acetylcholinesterase Assay Kit (Colorimetric) using a microplate reader. As low as 0.1 mU/well of acetylcholinesterase can be detected with 30 minutes incubation (n=3)

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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