

Acetylcholine Assay Kit

Acetylcholine Assay Kit (Colorimetric)

CATALOG #

AAA11431

PRODUCT SYNONYMS

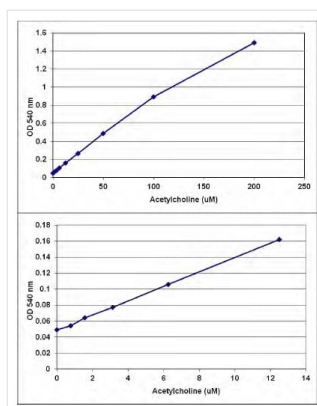
Acetylcholine; Acetylcholine Assay Kit (Colorimetric); Acetylcholine assay kit

PRODUCT SPECIFICATIONS

Preparation and Storage

Upon receipt, store the Assay Buffer (10X) at 4 degree C. Store the remaining components at -20 degree C. The Colorimetric Probe is light sensitive and must be stored accordingly. Avoid multiple freeze/thaw cycles.

IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for Acetylcholine assay kit	Principle of the Assay: Acetylcholine Assay Kit measures the acetylcholine present within serum, plasma, or tissue samples. The assay is based on the enzyme driven reaction that will detect acetylcholine via acetylcholinesterase enzyme and choline oxidase. First, acetylcholinesterase hydrolyzes acetylcholine into choline and acetic acid. Choline is then oxidized by choline oxidase to produce hydrogen peroxide. The hydrogen peroxide is then detected with a highly specific fluorescence probe. Horseradish peroxidase catalyzes the reaction between the probe and hydrogen peroxide, which bind in a 1:1 ratio. Samples are compared to a known concentration of acetylcholine standard within the 96-well microtiter plate format. Samples and standards are incubated for 45 minutes and then read with a standard 96-well fluorometric plate reader (Figure 1). Background/Introduction: Acetylcholine is a polyatomic cation neurotransmitter that is produced in acetylcholinergic neurons. It is one of many neurotransmitters within the autonomic nervous system and the only neurotransmitter in the motor function of the somatic nervous system. Acetylcholine works within the peripheral and central nervous systems within many organisms, including humans. It is manufactured via choline acetyltransferase from acetyl-CoA and choline. Choline is an amine that is an essential nutrient that is a key precursor to many phospholipids. Acetylcholine works in the peripheral nervous system by activating skeletal muscles as well as smooth muscle and cardiac muscle function. Within the central nervous system, acetylcholine acts as a neuromodulator for the cholinergic system, which causes excitatory actions. Here the neurotransmitter is involved with plasticity, excitability, arousal, and reward. Acetylcholine's half-life and activity are very short because it is broken down by acetylcholinesterase. There are two main acetylcholine receptors: nicotinic and muscarinic. Acetylcholine disorders can have a profound impact on neurological function. A shortage of acetylcholine, such as the autoimmune disorder Myasthenia gravis, leads to muscle fatigue and weakness due to antibodies blocking acetylcholine receptors. Acetylcholine has also been implicated in many disease states including diabetic vasculopathy, hypertension, and Alzheimer's disease. Acetylcholine Assay Kit is a simple fluorometric assay that measures the amount of acetylcholine present in plasma or serum, tissue homogenates, or cell suspensions in a 96-well microtiter plate format. Each kit provides sufficient reagents to perform up to 96 assays, including blanks, acetylcholine standards and samples. Sample acetylcholine concentrations are determined by comparison with a known acetylcholine standard. The kit's detection sensitivity limit is approximately 0.05 uM acetylcholine.
Product Categories/Family for Acetylcholine assay kit	Metabolism Research; Lipoprotein Metabolism; Phospholipid Assays
References	1. Gilberstadt, M.L., et al. (1984) Anal. Biochem. 138: 78-85. 2. Holm, P.L., et al. (2003) Clin. Chem. 49: 286-294. 3. Kovarik, Z., et al. (2003) Biochem. J. 373: 33-40. 4. Magnottl, R.A., et al. (1987) Clin. Chem. 33/10: 1731-1735. 5. Vizi, E.S., et al. (1985) J. Pharmacol. Methods 13: 201-211.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com
Online datasheet: <https://stage.aaabiotech.com/assay-kits/acetylcholine/11431>