abcam

Product datasheet

Choline/Acetylcholine Assay Kit ab65345

56 References 5 Images

Overview

Product name	Choline/Acetylcholine Assay Kit
Detection method	Colorimetric/Fluorometric
Sample type	Cell culture supernatant, Urine, Serum, Plasma, Cell culture extracts, Other biological fluids, Tissue Extracts
Assay type	Quantitative
Sensitivity	> 0.01 nmol/well
Range	0.01 nmol/well - 5 nmol/well
Assay time	0h 40m
Species reactivity	**Reacts with:** Mammals, Other species
Product overview	Choline/Acetylcholine Assay Kit (ab65345) provides a simple and sensitive means for quantifying Choline and Acetylcholine by either a colorimetric or fluorometric method in samples such as blood, cells, culture media, fermentation media, etc. In the choline / acetylcholine assay protocol, free choline is oxidized to betaine, via the intermediate betaine aldehyde. The reaction generates products which react with the Choline Probe to generate color (λ= 570 nm), and fluorescence (Ex/Em 535/587 nm). Acetylcholine can be converted to choline by adding acetylcholinesterase to the reaction to measure total choline (choline + acetyl choline). The amount of acetyl choline is calculated by subtracting choline from total choline. There is no need for pretreatment or purification of samples. The kit can detect ~10 pmol-5 nmol of choline or acetylcholine. Cells should be cultured in choline chloride free medium. Choline / acetylcholine assay protocol summary: - add samples and standards to wells - add choline reaction mix with, or without, acetylcholinesterase, and incubate for 30 min at room temp - analyze with microplate reader
Notes	This product is manufactured by BioVision, an Abcam company and was previously called K615

Choline/Acetylcholine Quantification Colorimetric/Fluorometric Kit. K615-100 is the same size as the 100 test size of ab65345.

If you need to purchase additional Choline Probe for this product, please see **ab139505**.

Platform Microplate reader

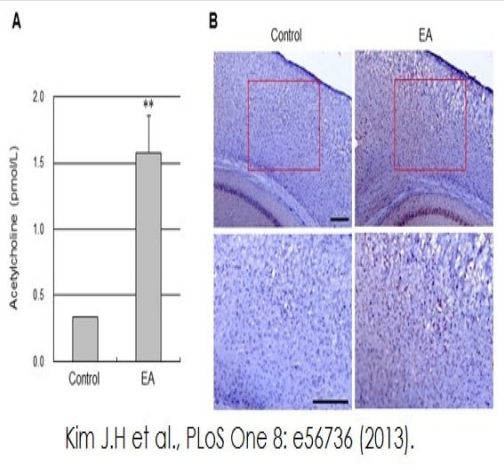
Properties

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

Components	100 tests	2000 tests
Acetylcholinesterase Enzyme	1 vial	20 vials
Assay Buffer VI	1 x 25ml	20 x 25ml
Choline Standard	1 vial	20 vials
Enzyme Mix IV	1 vial	20 vials
OxiRed Probe	1 x 200µl	20 x 200µl

Relevance Choline and acetylcholine (often abbreviated ACh) play important roles in many biological processes. Choline is a natural amine, and is generally found in phosphatidylcholine and sphingomyelin, phopholipids abundant in cell membranes. Choline is also the precursor molecule for the neurotransmitter acetylcholine which is involved in many functions both in the peripheral nervous system (PNS) and in the central nervous system (CNS). In the PNS, ACh activates muscles and is a major neurotransmitter in the autonomic nervous system. In the CNS, ACh and the associated neurons form the cholinergic system, which tends to cause anti-excitatory actions.

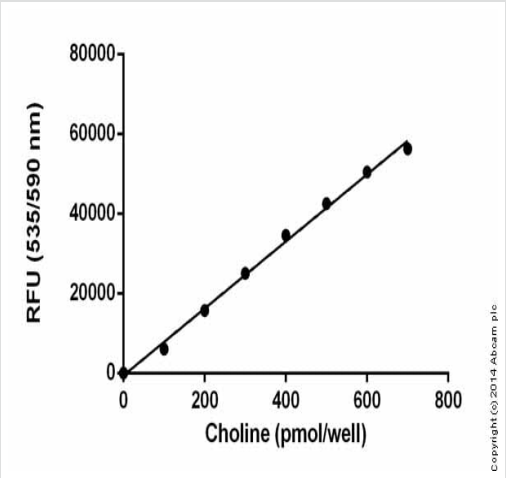
Images



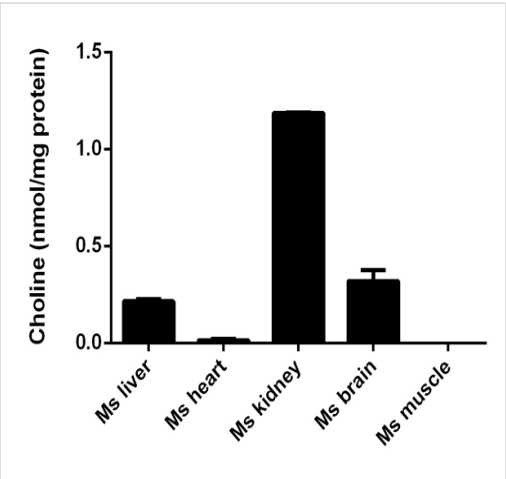
Functional studies- ab65345

Image from Kim J.H et al., PLoS One 8(2), Fig 4. doi: 10.1371/journal.pone.0056736. Reproduced under the Creative Commons license http://creativecommons.org/licenses/by/4.0/

Acetylcholine levels from mouse brain tissue was measured using Acetylcholine assay kit (ab65345). Normal mice were anesthetized with thiopental sodium at 20minutes after the end of electroacupuncture (EA) treatment to determine levels of ACh (Figure A). Immunohistochemical staining mAChR (muscarinic acetylcholine receptor) M3 in mouse cerebral cortex tissue 20 minutes after the end of EA treatment (Image B).

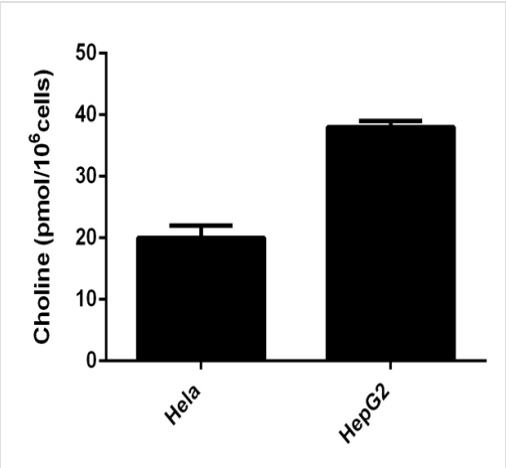


Functional Studies - Choline/Acetylcholine Assay Kit (ab65345)



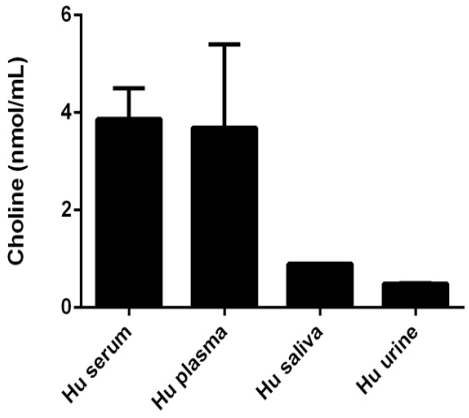
Choline measured fluorometrically in mouse tissue lysates showing quantity (nmol) per mg protein of tested sample

Functional Studies - Choline/Acetylcholine Assay Kit (ab65345)



Choline measured fluorometrically in cell lysates showing quantity (pmol) per 1 mln of tested cells

Functional Studies - Choline/Acetylcholine Assay Kit (ab65345)



Choline measured fluorometrically in biological fluids showing quantity (nmol) per mL of tested sample

Functional Studies - Choline/Acetylcholine Assay Kit (ab65345)

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