

Product datasheet

Ethanol Assay Kit ab65343

18 References 5 Images

Overview

Product name	Ethanol Assay Kit
Detection method	Colorimetric/Fluorometric
Sample type	Cell culture supernatant, Urine, Serum, Plasma, Other biological fluids, Tissue Extracts
Assay type	Quantitative
Sensitivity	> 10 nM
Range	2 µM - 200 µM
Assay time	1h 00m
Product overview	Ethanol Assay Kit ab65343 provides a simple, rapid, and sensitive method for accurate quantification of ethanol concentration in a variety of biological samples such as serum, plasma, other body fluids, foods, beverages and growth media.

In the ethanol assay protocol, alcohol oxidase oxidizes ethanol to generate H₂O₂ which reacts with a probe to generate color (absorbance max 570 nm) and fluorescence (Ex/Em 535/587 nm).

The kit detects 0.1-10 ppm alcohol (~10-800 nM).

Ethanol assay protocol summary:

- add samples and standards to wells
- add reaction mix and incubate for 30 min at 37°C
- analyze with microplate reader

Notes **PLEASE NOTE:** Extreme care should be taken to ensure that no alcohol vapors (ethanol, methanol, propanol) are in the laboratory air where this assay is to be performed. Alcohol vapors in the air will be rapidly absorbed by kit components resulting in very high background making the kit unusable. Laboratories where HPLC equipment and solvents are standing or where alcohol is used to wipe down laboratory benches or equipment are inappropriate locations to perform this assay.

Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances.

It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

Platform Microplate reader

Properties

Storage instructions

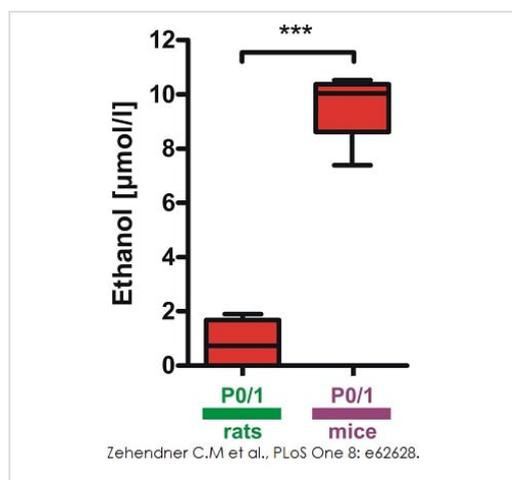
Store at -20°C. Please refer to protocols.

Components	Identifier	100 tests
Ethanol Assay Buffer	WM	1 x 25ml
Ethanol Enzyme Mix	Green	1 vial
Ethanol Probe (in DMSO, anhydrous)	Red	1 x 200µl
Ethanol Standard	Yellow	1 x 500µl

Relevance

Alcohol (ethanol C₂H₅OH) is a clear colorless liquid rapidly absorbed from the gastrointestinal tract and distributed through the body. Ethanol has a depressive effect on the central nervous system and because of its psychoactive effects, it is considered a drug. Ethanol is metabolized by the body as an energy-providing carbohydrate nutrient, as it is metabolized into acetyl CoA, an intermediate common with glucose that can be used for energy in the citric acid cycle (TCA) or for biosynthesis. Ethanol within the human body is converted into acetaldehyde by alcohol dehydrogenase and then into acetic acid by acetaldehyde dehydrogenase. Acetaldehyde, the product of the first step of the alcohol breakdown, is linked to most of the toxic clinical effects of alcohol.

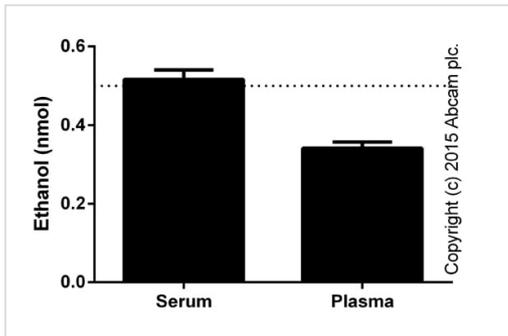
Images



Ethanol in blood plasma was analyzed using ethanol assay kit (ab65343). Ethanol concentrations were determined 60 minutes after urethane administration in P0/1 mice and rats.

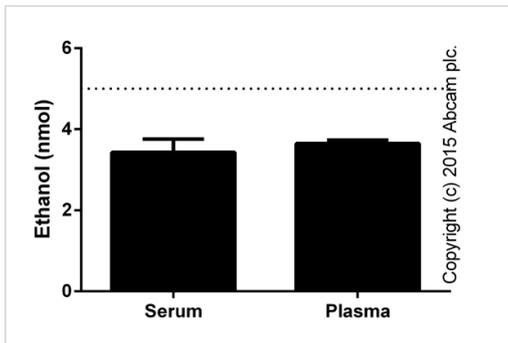
Functional studies - ab65343

Zehendner C.M et al., PLoS One 8(5), Fig 5. Doi: 10.1371/journal.pone.0062628 Reproduced under the Creative Commons license <http://creativecommons.org/licenses/by/4.0/>



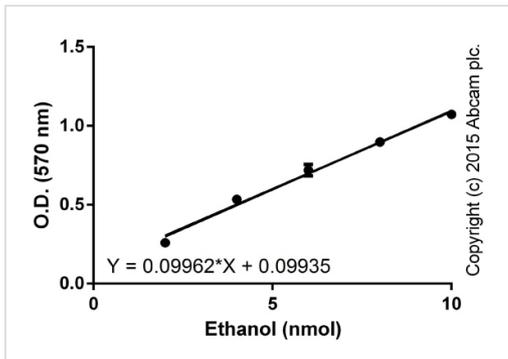
Functional Assay: ab65343 Ethanol Assay Kit

0.5 nmol of ethanol was added to diluted human biological fluids (1/10) and spiked samples were measured fluorimetrically (background subtracted, duplicates; +/- SD).



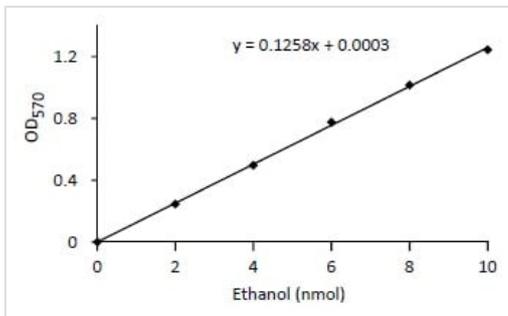
Functional Assay: ab65343 Ethanol Assay Kit

5 nmol of ethanol was added to diluted human biological fluids (1/10) and spiked samples were measured colourimetrically (background subtracted, duplicates; +/- SD).



Functional Assay: ab65343 Ethanol Assay Kit

Standard curves with background signal subtracted (duplicates; +/- SD).



Functional Studies - Ethanol Assay Kit (ab65343)

Ethanol Standard Curve. Ethanol standard was diluted as described and the assay was performed according to the kit instructions.

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