**Product datasheet**

**Ethanol Assay Kit ab65343**

**Overview**

<table>
<thead>
<tr>
<th><strong>Product name</strong></th>
<th>Ethanol Assay Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Detection method</strong></td>
<td>Colorimetric/Fluorometric</td>
</tr>
<tr>
<td><strong>Sample type</strong></td>
<td>Cell culture supernatant, Urine, Serum, Plasma, Other biological fluids, Tissue Extracts</td>
</tr>
<tr>
<td><strong>Assay type</strong></td>
<td>Quantitative</td>
</tr>
<tr>
<td><strong>Sensitivity</strong></td>
<td>&gt; 10 nM</td>
</tr>
<tr>
<td><strong>Range</strong></td>
<td>2 µM - 200 µM</td>
</tr>
<tr>
<td><strong>Assay time</strong></td>
<td>1h 00m</td>
</tr>
<tr>
<td><strong>Product overview</strong></td>
<td>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.</td>
</tr>
</tbody>
</table>

In the ethanol assay protocol, alcohol oxidase oxidizes ethanol to generate H$_2$O$_2$ 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.

**Platform**

Microplate reader

**Properties**

**Storage instructions**

Store at -20°C. Please refer to protocols.
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 metabolized into acetyl CoA, an intermediate common with glucose than 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.

<table>
<thead>
<tr>
<th>Components</th>
<th>Identifier</th>
<th>100 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol Assay Buffer</td>
<td>WM</td>
<td>1 x 25ml</td>
</tr>
<tr>
<td>Ethanol Enzyme Mix</td>
<td>Green</td>
<td>1 vial</td>
</tr>
<tr>
<td>Ethanol Probe (in DMSO, anhydrous)</td>
<td>Red</td>
<td>1 x 200µl</td>
</tr>
<tr>
<td>Ethanol Standard</td>
<td>Yellow</td>
<td>1 x 500µl</td>
</tr>
</tbody>
</table>

Relevance

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.

Images

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

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

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

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