Chloral Microplate Assay Kit

Cat #: orb707402 (manual)

Detection and Quantification of Chloral Content in Water and Other biological fluids Samples.

For research use only. Not for diagnostic or therapeutic procedures.

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INTRODUCTION

Chloral, also known as trichloroacetaldehyde or trichloroethanal, is the organic compound with the formula Cl_3CCHO. This aldehyde is a colourless oily liquid that is soluble in a wide range of solvents. It reacts with water to form chloral hydrate, a once widely used sedative and hypnotic substance.
Chloral Microplate Assay Kit provides a convenient tool for sensitive detection of Chloral concentration in a variety of samples. The intensity of the product color, measured at 480 nm, is proportional to the Chloral concentration in the sample.

KIT COMPONENTS

Component	Volume	Storage
96-Well Microplate	1 plate	
Reaction Buffer	5 ml x 1	4 °C
Dye Reagent	Powder x 1	4 °C
Dye Reagent Diluent	5 ml x 1	4 °C
Standard	Powder x 1	4 °C
Plate Adhesive Strips	3 Strips	
Technical Manual	1 Manual	

Note:

Dye Reagent: add 5 ml Dye Reagent Diluent, mix before use.

Standard: add 1 ml distilled water to dissolve before use; then add 50 µl into 950 µl distilled water, mix, the concentration will be 1 mmol/L.

MATERIALS REQUIRED BUT NOT PROVIDED

1. Microplate reader to read absorbance at 480 nm
2. Distilled water
3. Pipettor, multi-channel pipettor
4. Pipette tips
5. Centrifuge
6. Timer
7. Convection oven

SAMPLE PREPARATION

1. For liquid samples

Detect directly, or dilute with distilled water.

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ASSAY PROCEDURE

Add following reagents into the microplate:

Reagent	Sample	Standard	Blank
Sample	100 µl	--	--
Standard	--	100 µl	--
Distilled water	--	--	100 µl
Reaction Buffer	50 µl	50 µl	50 µl
Dye Reagent	50 µl	50 µl	50 µl
Mix, cover the plate adhesive strip, incubate at 90 °C for 15 minutes, record absorbance measured at 480 nm.			

Note:

1) Perform 2-fold serial dilutions of the top standards to make the standard curve.

2) The concentrations can vary over a wide range depending on the different samples. For unknown samples, we recommend doing a pilot experiment & testing several doses to ensure the readings are within the standard curve range.

CALCULATION

1. According to the volume of sample

$$\text{Chloral (μmol/ml)} = (C_{Standard} \times V_{Standard}) \times (OD_{Sample} - OD_{Blank}) / (OD_{Standard} - OD_{Blank}) / V_{Sample}$$

$$= (OD_{Sample} - OD_{Blank}) / (OD_{Standard} - OD_{Blank})$$

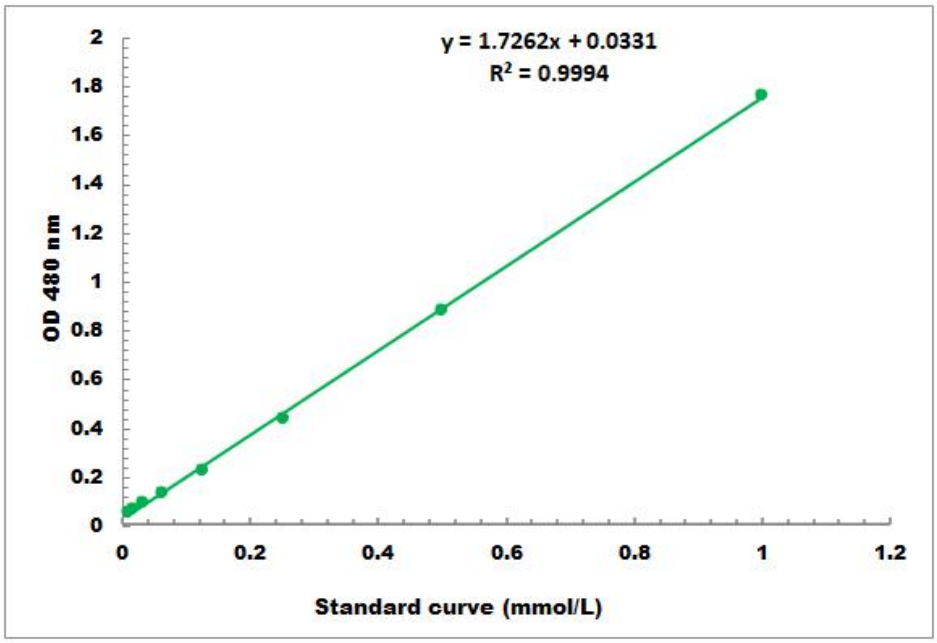
$C_{Standard}$: the concentration of standard, 1 mmol/L = 1 μmol/ml;

$V_{Standard}$: the volume of standard, 0.1 ml;

V_{Sample}: the volume of sample, 0.1 ml.

TYPICAL DATA

The standard curve is for demonstration only. A standard curve must be run with each assay.



Detection Range: 0.01 mmol/L - 1 mmol/L

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