



User's Manual

Phosphatidylethanol (PEth) ELISA Kit

REF

DEIA-XYZ21



96T

RUO

This product is for research use only and is not intended for diagnostic use.

For illustrative purposes only. To perform the assay the instructions for use provided with the kit have to be used.

Creative Diagnostics

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PRODUCT INFORMATION

Intended Use

Phosphatidylethanol (PEth) is a rare phospholipid biomarker for alcohol ingestion. PEth is a direct ethanol metabolite found in blood that has been described as "highly specific and highly sensitive". CD's PEth detection assay is useful for measuring lipid extracts containing as little as 50 nM PEth.

General Description

Ethanol (EtOH) has multiple effects on humans and other animals. Alcohol addiction and organ damage are active areas of research with a need for research reagents and tools. Phosphatidylethanol (PEth) is a direct metabolite of EtOH and has been described as a long-lived biomarker for alcohol ingestion. It is possible that PEth is involved in the neurological, protective, and harmful effects of alcohol, but the mechanisms are still being explored. The PEth ELISA assay is a competitive ELISA in which the signal is inversely proportional to the amount of PEth produced. Once PEth has been generated in vitro or extracted from erythrocytes or serum, the sample is incubated with an anti-PEth antibody and then added to a PEth-coated plate for competitive binding. A peroxidase-linked secondary detector and colorimetric substrate is used to detect the amount of anti-PEth antibody bound to the plate. The colorimetric signal is read at absorbance 450 nm and is inversely proportional to the amount of PEth in the sample.

Reagents And Materials Provided

1. PEth Coated Strip-well Detection Plate: 1 plate
2. PEth Standards (A-F): 6 vials, 400 µL each
3. Antibody Stabilizer: 1 vial, 1.2 mL
4. Anti-PEth Antibody: 20 µL
5. Sample Buffer: 10 mL
6. Secondary Detector: 50 µL
7. PBS Tablet: 1 Tablet
8. 10x PBS-T Buffer: 20 mL
9. TMB Solution: 12 mL
10. 1 N H₂SO₄ Stop Solution: 10 mL
11. Yellow 96-well polypropylene U-bottom plate: 1 plate
12. Clear acetate sheet, 1 side adhesive: 2 seals

Materials Required But Not Supplied

1. Extracted PEth samples (See Support Protocol for PEth Extraction from Blood at the end of this document)
2. Buffers and solvents for PEth extractions
3. 450 nm absorbance plate reader

Storage

2-8°C and -20°C