

**New Test**      **3002598**      **Phosphatidylethanol (PEth), Whole Blood, Quantitative**      **PETH**



Additional Technical Information

**Methodology:** Quantitative Liquid Chromatography/Tandem Mass Spectrometry  
**Performed:** Sun-Sat  
**Reported:** 1-4 days

**Specimen Required:** Collect: Lavender (K<sub>2</sub> or K<sub>3</sub> EDTA), Pink (K<sub>2</sub>EDTA), Green (Lithium Heparin), Gray (Potassium Oxalate).  
Specimen Preparation: Transport 1 mL whole blood. (Min: 0.5 mL)  
Storage/Transport Temperature: Refrigerated. Also acceptable: Frozen.  
Unacceptable Conditions: Gel separator tubes, Plain Red, light blue (citrate), or yellow (SPS or ACD solution).  
Stability (collection to initiation of testing): Ambient: Unacceptable; Refrigerated: 2 weeks; Frozen: 1 month (-20°C)

**Reference Interval:** Less than 10 ng/mL

**Interpretive Data:**

| Phosphatidylethanol (PEth) homologues | Result Interpretation   |  |
|---------------------------------------|---|--|
| PEth 16:0/18.1 (POPEth)               | Less than 10 ng/mL  | Not detected                                     |
|                                       | Less than 20 ng/mL  | Abstinence or light alcohol consumption          |
|                                       | 20 – 200 ng/mL  | Moderate alcohol consumption                     |
|                                       | Greater than 200 ng/mL  | Heavy alcohol consumption or chronic alcohol use |
| PEth 16:0/18.2 (PLPEth)               | Reference ranges are not well established<br><br>(Reference: W. Ulwelling and K Smith 2018 J. Forensic Sci) |  |

Phosphatidylethanol (PEth) is a group of phospholipids formed in the presence of ethanol, phospholipase D and phosphatidylcholine. PEth is known to be a direct alcohol biomarker. The predominant PEth homologues are PEth 16:0/18:1 (POPEth) and PEth 16:0/18:2 (PLPEth), which account for 37-46% and 26-28% of the total PEth homologues, respectively. PEth is incorporated into the phospholipid membrane of red blood cells and has a general half-life of 4 – 10 days and a window of detection of 2 – 4 weeks. However, the window of detection is longer in individuals who chronically or excessively consume alcohol. The limit of quantification is 10 ng/mL. Serial monitoring of PEth may be helpful in monitoring alcohol abstinence over time. PEth results should be interpreted in the context of the patient’s clinical and behavioral history. Patients with advanced liver disease may have falsely elevated PEth concentrations (Nguyen VL et al 2018, Alcoholism Clinical & Experimental Research).  
 See Compliance Statement B: [www.aruplab.com/CS](http://www.aruplab.com/CS)

**CPT Code(s):** 80321 (Alt code: G0480)

New York DOH approval pending. Call for status update.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.