

PHOSPHATIDYLETHANOL  
(PETH) TESTING

**DNA Legal**

THE MOST ACCURATE BLOOD TEST  
TO DETERMINE ALCOHOL ABUSE



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## (PETH) TESTING

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The most accurate blood test to determine Alcohol Abuse for family courts, fitness to practice, clinical studies and treatment centers.

- Phosphatidylethanol (PEth) Testing provides a detection of alcohol abuse with 99% sensitivity (far higher than traditional blood testing methods)
- A blood spot/micro sample can be collected by finger prick making it less invasive than a full venipuncture (needle and vial collection)
- PEth testing is not affected by medications, illnesses, previous drinking habits, age or the health of the donor
- The result provides a detection period of up to 3-4 weeks
- Ideally combined with Hair or Nail testing

### DETAILS BEHIND PETH TESTING

Phosphatidylethanol testing, known as PEth testing, is a highly reliable blood test allowing the detection of chronic excessive alcohol abuse over the previous 3-4 weeks. With a sensitivity and accuracy rate of over 99% it is being widely adopted as a replacement to CDT, LFT & MCV testing which offers up to a 77% sensitivity rate.

The traditional blood testing (CDT, LFT & MCV) are known as indirect & toxic effect biomarkers. There are many factors such as hepatitis, liver disease and health issues that can result in an individual having either a false positive or false negative result even when these markers are combined.

The reason is that the testing is looking at the cells and organs to determine if they are operating in a healthy way or have been damaged. Alcohol is one of the main causes for damage to occur but someone with a cold or on certain prescription medication can also end up with a positive (out of healthy range) reading.

In contrast PEth Testing is a “direct biomarker” which means that it is only formed after someone has consumed alcohol. It also stays in the blood stream, attaching to the red blood cell membrane. When PEth is detected you can be confident that this is as a result of alcohol having been consumed.

### PERIOD OF DETECTION

The accepted detection period for PEth testing is up to three weeks however the (greater the exposure) larger the binge session(s) the longer the period of detection. Furthermore multiple binge sessions will also increase the period of detection .

#### WHAT THE RESULTS SHOW

A positive PEth result is a reading of over 20ng/mL or above. This is equivalent to excessive alcohol abuse. It is considered that a result of over 100ng/mL is very strong evidence to suggest heavy binge drinking.

It is not possible to directly quantify the number of drinks to the level of PEth as you need to consider number of drinks based on body size, however we have provided a guidance below;

LEVEL DETECTED	POSSIBLE DRINKING LEVELS *
10 ng/mL	Equals 2-3 units a day for 30 days or perhaps 2 binge sessions depending on body
20ng/mL (Positive)	7 units in 2 hours for a single day, with collection the next morning for a small to medium sized person
95 ng/mL	2 binge sessions per day

\* Please note there are 3 variables that are considered: BMI, rate of formation, and rate of elimination.

In order to generate enough detectable PEth the individual must drink in a way that raises their blood alcohol concentration (BAC) level. This is the same situation as with drink driving. Consuming small sips of alcohol does not raise the BAC levels

#### INCIDENTAL EXPOSURE

Research has indicated that a PEth test can differentiate between incidental exposure (such as hand sanitizer) and the intentional consumption of alcohol. Furthermore the level of alcohol required to be consumed to produce a positive reading on a DNA Legal test is far higher than any level possible through incidental exposure.

#### SIMPLE COLLECTION PROCESS

The collection process uses a finger prick device and a number of blood drops are collected in a specially designed collection kit. The kit can be transported at room temperature and the blood will remain stable for a long period of time. A fully trained collector will guide the donor through the process and complete the chain of custody and identification checks.

#### RECOMMENDATION TO COMBINE WITH HAIR/NAILS

As with all blood testing it is recommended to test in combination with another matrix such as hair or fingernails. By combining the results of the two matrixes you end up with the clear picture of abuse.

PEth is not affected by; age, gender, other substances and certain diseases.

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call 0203 4243 470 or find us online at [www.dnalegal.com](http://www.dnalegal.com)

