

## Window of Detection and Collection

**Nails provide up to 6 months of drug use history and up to 3 months of alcohol history.**

Biomarkers are detectable in nail as early as one week after drug or alcohol use. The window of detection for drug or alcohol ingestion depends on the substance used, the amount used, and personal metabolism. Just like hair and urine, a negative result is not proof of abstinence, just the lack of evidence.



**A 2-3mm clipping, about the thickness of a quarter, from the end of each fingernail provides the optimal sample.**



**Not enough fingernail?** Wait 1-2 weeks. What is positive today will still be positive in 2 weeks. Never mix fingernails and toenails in the same sample.

## What We Stand For

### Our Vision

To Enrich and Protect Lives

### Our Mission

Use the best science available to provide cutting edge tools for the analysis and evaluation of exposure to alcohol, substances of abuse, and toxins.



**What do Professionals Who Use Nail Testing Know That You Don't?**

# The Benefits of Fingernail Testing

Fingernail, made of keratin like hair, is emerging as a popular specimen type for drug and alcohol testing. It is simple to collect, easy to ship and store, and is at the cutting edge of drug and alcohol testing.

Drug and alcohol biomarkers are trapped in fingernail by three main routes:

1. Blood flow in the germinal matrix deposits drug and alcohol biomarkers into the nail when it is formed.
2. Blood flow in the nail bed deposits drug and alcohol biomarkers in the nail as it thickens.
3. Sweat and oil of the skin surrounding the nail deposits drug and alcohol biomarkers into the nail.

These three very different routes of incorporation are superimposed on top of each other rendering a very complex drug history picture.

**1:1** Nail and hair samples capture the same drugs.



**Non-intrusive, donor collected sample.** Fingernails are collected by the donor in front of a trained staff member.



**Minimal impact on the donor's appearance.**



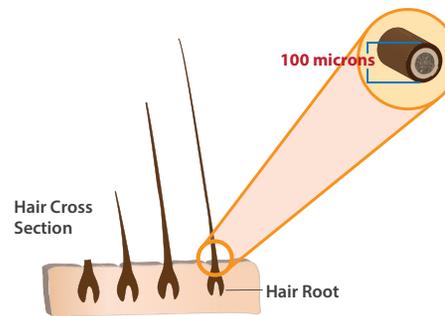
**All samples are screened on state-of-the-art instruments and presumptive positives are confirmed before reported out.**

**Drug and alcohol biomarkers are trapped in the keratin fibers of the fingernail.**

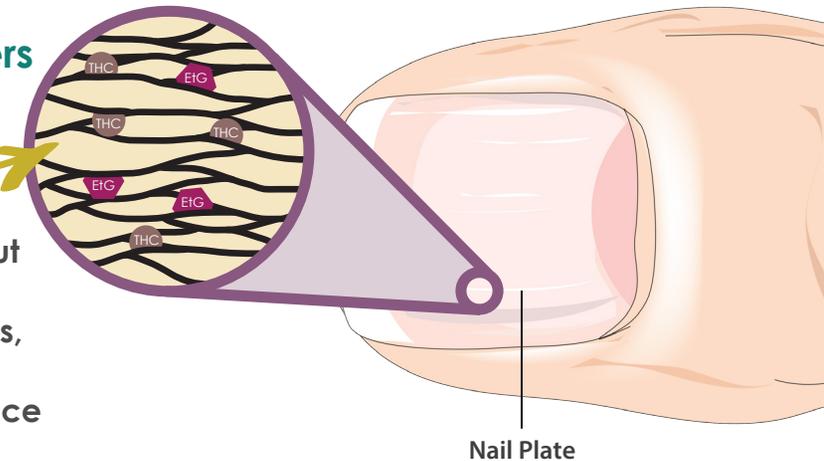
Hair is also made of keratin fibers, but biomarkers may be washed out of hair by common cosmetic treatments, such as bleaches, dyes, permanents and straighteners, reducing or eliminating the presence of the detectable substances. This problem does not exist when testing nails.

**Nail keratin is 4x thicker than hair.**

Nail often captures more of a biomarker than hair.



As nail grows in thickness and length, biomarkers build up in the nail at the germinal matrix and along the nail bed, collecting the full history of drug use.



**How nails grow is important for biomarker testing.**

The nail originates in the germinal matrix and grows outward toward the fingertip. The hardened material forming the nail plate grows across the nail bed, which is rich in capillary blood flow. As the nail grows in length, material is added from underneath such that the nail lengthens and thickens, as it grows outward toward the fingertip. The portion of the nail extending past the fingertip is called the free edge, the piece that you clip when clipping your nails. The entire process takes up to 6 months depending on the health of the individual.

