



# Detoxification Profile (Standard)

Great Smokies Diagnostic Laboratory<sup>SM</sup>

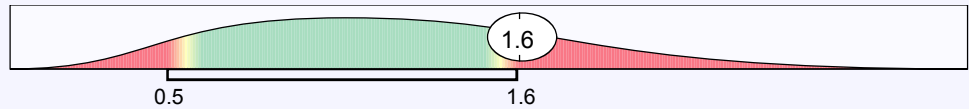
63 Zillicoa Street · Asheville, NC 28801-1074  
www.gsdL.com

Patient:	<b>Order Number:</b>	INSTITUUT VOOR FUNCTIONELE GENEESKUNDE
Age:	Completed:	Mathaak 3
Sex:	Received:	Malden, 6581VK
MRN:	Collected:	THE NETHERLANDS

## Phase I

**Caffeine Clearance**

Ref Range  
mL/min/kg



## Phase II

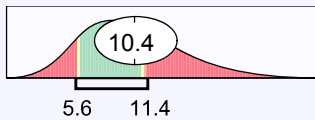
**Glutathione Conjugation**

**Glycine Conjugation**

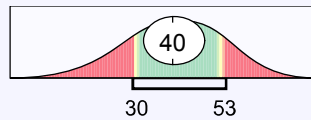
**Sulfation**

**Glucuronidation**

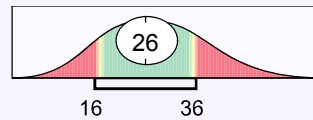
Acetaminophen Mercapturate  
% Recovery



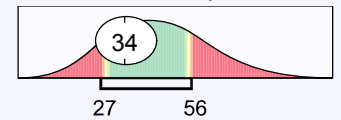
Salicylic Acid  
% Recovery



Acetaminophen Sulfate  
% Recovery



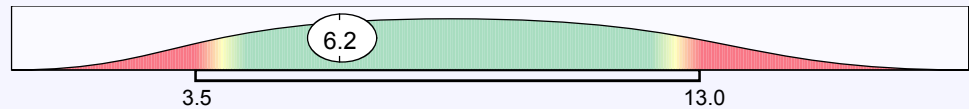
Acetaminophen Glucuronide  
% Recovery



## Ratios

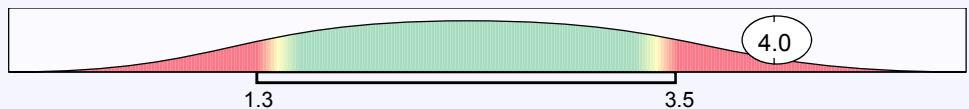
**Phase I/Sulfation**

Ref Range



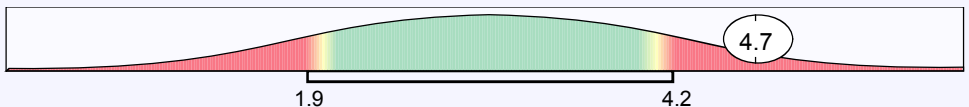
**Phase I/Glycination**

Ref Range



**Phase I/Glucuronidation**

Ref Range



This test was developed and its performance characteristics determined by GSDL, Inc. It has not been cleared or approved by the U.S. Food and Drug Administration.

## Urine Total Volume

mL per 10 hours: 370

## Commentary

### Lab Comments

**No date of birth given. 09/06/02 CLS**

Commentary is provided to the practitioner for educational purposes, and should not be interpreted as diagnostic or treatment recommendations. Diagnosis and treatment decisions are the responsibility of the practitioner.

For the patient:

Our bodies must be able to detoxify, or neutralize, toxins from the external environment as well as those produced within our own bodies. This process takes place mostly in the liver, and consists of two phases. In Phase I toxins are activated, which means that they are altered in such a way that carrier molecules (Phase II) are able to transport them out of the body. A handy analogy is the bagging of our trash (Phase I), so that the garbageman can pick it up and cart it away (Phase II). Phase I is accomplished by a family of enzymes called "cytochrome P450", and Phase II takes place via a number of important mechanisms, four of which we measure in this test, with the help of the challenge substances, caffeine, acetaminophen and aspirin. Both Phase I and Phase II of detoxification must function adequately so that toxins are able to be neutralized, and the two phases must be in balance with each other so that the activated compounds from Phase I cannot accumulate in the body and cause damage.

In your particular case, Phase I and Phase II are functioning adequately, however some imbalance exists between the two phases. With nutritional support, these kinds of imbalances are usually correctable. The following is a detailed description of your test results.

For the clinician:

Caffeine clearance is within the reference range, indicating normal Phase I (cytochrome P450) activity.

All Phase II detoxification pathways appear to be functioning adequately.

"Note: Phase I/Phase II ratios which lie below the reference range will not be discussed within the commentary text, even though they may appear in the red boxes labeled "abnormal". At this time we have not found sufficient information to consider them clinically significant."

The Phase I/Phase II ratios for glucuronidation and glycine conjugation are both elevated. A high ratio between Phase I and any of the Phase II pathways implies imbalanced detoxification in the body. The activated compounds, coming out of Phase I are potentially toxic and may accumulate, leading to illness. Supporting the Phase II pathways is the key to balance.