

<b>Final Report Date:</b>	12-13-2019 15:43	<b>Specimen Collected:</b>	11-30-2015
<b>Accession ID:</b>	1512010000	<b>Specimen Received:</b>	12-01-2015 00:00

LAST NAME	FIRST NAME	GENDER	DATE OF BIRTH	ACCESSION ID	DATE OF SERVICE
TESTNAME	PATIENT	MALE	1997-06-22	1512010000	11-30-2015

## PATIENT

Name: PATIENT TESTNAME  
 Date of Birth: 1997-06-22  
 Gender: Male  
 Age: 22

Fasting: FASTING No. of hours: 12.0

## PROVIDER

Practice Name: Vibrant IT4 Practice  
**Provider Name: Vibrant IT4, MD (999999)**  
 Street Address: 999999 PRACTICE STREET AVE  
 City: SAN CARLOS  
 State: CA  
 Zip #: 94404  
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For doctor's reference

**Vibrant Wellness** is pleased to present to you, '**Mycotoxins**', to help you make healthy lifestyle, dietary and treatment choices in consultation with your healthcare provider. It is intended to be used as a tool to encourage a general state of health and well-being.

**The Vibrant Mycotoxins** is a test to identify and quantify the level of a large set of mycotoxins from both food and environmental molds. The panel is designed to give a complete picture of an individual's levels of these mycotoxins in urine. The results are provided in 3 tables subgrouping the mycotoxins into Aflatoxins, Trichothecenes and Other Mycotoxins

**Interpretation of Report:** The report begins with the Mycotoxins summary page which lists only the mycotoxins whose levels are high or moderate in the reference range. Following this section is the complete list of the mycotoxins along with the corresponding species and their absolute levels in pg/ml in a tabular form to enable a full overview along with the reference ranges. The level of the mycotoxin has a green, yellow or red highlight around the cell indicating – Mild (Low mold diet intake), Moderate or High exposure to the particular mycotoxin. Additionally, the previous value is also indicated to help check for improvements every time the test is ordered.

The Vibrant Wellness platform provides tools for you to track and analyze your general wellness profile. Testing for the Mycotoxins panel is performed by Vibrant America, a CLIA certified lab CLIA#:05D2078809. Vibrant Wellness provides and makes available this report and any related services pursuant to the Terms of Use Agreement (the "Terms") on its website at [www.vibrant-wellness.com](http://www.vibrant-wellness.com). By accessing, browsing, or otherwise using the report or website or any services, you acknowledge that you have read, understood, and agree to be bound by these terms. If you do not agree to accept these terms, you shall not access, browse, or use the report or website. The statements in this report have not been evaluated by the Food and Drug Administration and are only meant to be lifestyle choices for potential risk mitigation. Please consult your physician/dietitian for medication, treatment, or lifestyle management. This product is not intended to diagnose, treat, or cure any disease.

Please Note - It is important that you discuss any modifications to your diet, exercise and nutritional supplementation with your physician before making any changes.

**To schedule an appointment with Vibrant Clinical Dietitians please call: Toll-Free 866-364-0963.**

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## Mycotoxins Summary

### Mycotoxins - High

Test Name	Species Name	In Control	Moderate	High	Current Level	Previous Level (08/20/2015)
Citrinin (ng/g)	Penicillium	≤9.4	9.5~18.8	≥18.9	20.1	0.8
Roridin H (ng/g)	Stachybotrys chartarum	≤6.3	6.4~12.6	≥12.7	19.3	0.3

### Mycotoxins - Moderate

Test Name	Species Name	In Control	Moderate	High	Current Level	Previous Level (08/20/2015)
Ochratoxin A (ng/g)	Aspergillus, Penicillium	≤5.1	5.2~10.2	≥10.3	7.0	0.5

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## Mycotoxins Complete List

### Aflatoxin

Test Name (ng/g)	Species Name	In Control	Moderate	High	Current Level	Previous Level (08/20/2015)
Aflatoxin M1	Aspergillus	≤4.8	4.9~9.6	≥9.7	<0.1	<0.1
Aflatoxin B1	Aspergillus	≤5.2	5.3~10.4	≥10.5	4.0	<0.1
Aflatoxin B2	Aspergillus	≤6.1	6.2~12.2	≥12.3	4.0	0.2
Aflatoxin G1	Aspergillus	≤4.9	5.0~9.8	≥9.9	1.0	0.2
Aflatoxin G2	Aspergillus	≤8.1	8.2~16.2	≥16.3	<0.1	0.9

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## Other

Test Name (ng/g)	Species Name	In Control	Moderate	High	Current Level	Previous Level (08/20/2015)
Ochratoxin A	Aspergillus, Penicillium	≤5.1	5.2~10.2	≥10.3	7.0	0.5
Sterigmatocystin	Aspergillus, Penicillium, Bipolaris	≤0.4	0.5~0.8	≥0.9	<0.1	0.9
Zearalenone	Fusarium	≤0.5	0.6~1.0	≥1.1	<0.1	0.2
Enniatin B1	Fusarium	≤0.1	0.2~0.4	≥0.5	<0.1	4.5
Fumonisin B1	Fusarium	≤4.6	4.7~9.2	≥9.3	<0.1	0.3
Fumonisin B2	Fusarium	≤5.4	5.5~10.8	≥10.9	<0.1	0.6
Fumonisin B3	Fusarium	≤8.1	8.2~16.2	≥16.3	6.0	0.7
Citrinin	Penicillium	≤9.4	9.5~18.8	≥18.9	20.1	0.8
Patulin	Penicillium	≤8.7	8.8~17.4	≥17.5	7.0	0.3
Glutotoxin	Aspergillus	≤155.9	156.0~311.8	≥311.9	94.0	0.4
Mycophenolic Acid	Penicillium	≤4.8	4.9~9.6	≥9.7	2.0	0.4
Dihydrocitrinone	Aspergillus, Penicillium, Monascus	≤12.4	12.5~24.8	≥24.9	5.0	0.5
Chaetoglobosin A	Chaetomium globosum	≤23.9	24.0~47.8	≥47.9	15.0	6.4

### Comments

#### Ochratoxin A

Members of the ochratoxin A have been found as metabolites of many different species of *Aspergillus* and *Penicillium*. The level of Ochratoxin A production also influenced by the substrate on which the molds grow as well as the moisture level, temperature, and presence of competitive microflora interact to influence the level of toxin produced. Ochratoxin A has been found in barley, oats, rye, wheat, coffee beans, and other plant products, with barley having a particularly high likelihood of contamination. Ochratoxin has been detected in blood and other animal tissues and in milk, including human milk. Ochratoxin A is a nephrotoxin to all animal species studied to date and is most likely toxic to humans, who have the longest half-life for its elimination of any of the species. It is frequently found in pork intended for human consumption. Ochratoxin is believed to be responsible for a porcine nephropathy that has been studied intensively in the Scandinavian countries. The disease is endemic in Denmark, where rates of porcine nephropathy and ochratoxin contamination in pig feed are highly correlated. In addition to being a nephrotoxin, animal studies indicate that ochratoxin A is a liver toxin, an immune suppressant, a potent teratogen, and a carcinogen.<sup>3</sup>

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### Citrinin

Citrinin (CTN) is a nephrotoxic mycotoxin mainly produced by *Penicillium* although other genera such as *Aspergillus* and *Monascus* are also known to produce these toxins. CTN occurs in different plant products, especially in grains, and also in beans, fruit, vegetables, herbs and spices. Often, the co-occurrence with other mycotoxins is observed, especially ochratoxin A (OTA). It is a known fact that CTN occurs during fermentation of red mould rice as a secondary metabolite of *Monascus purpureus*. Red mould rice has been used for lowering lipoprotein levels in blood and also as a food dye for centuries. Besides its nephrotoxicity, which has been proved by various studies, there is also proof that CTN is involved in induction of apoptosis through oxidative stress, although the precise regulatory mechanism is yet to be determined.<sup>10</sup>

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## Trichothecenes

Test Name (ng/g)	Species Name	In Control	Moderate	High	Current Level	Previous Level (08/20/2015)
Roridin E	Fusarium, Myrothecium, Stachybotrys	≤1.0	1.1~2.0	≥2.1	1.0	0.6
Verrucarin A	Fusarium, Myrothecium, Stachybotrys	≤1.0	1.1~2.0	≥2.1	1.0	0.2
Deoxynivalenol (Vomitoxin/DON)	Fusarium	≤50.6	50.7~101.2	≥101.3	22.0	0.1
Nivalenol (NIV)	Fusarium	≤2.4	2.5~4.8	≥4.9	<0.1	0.8
diacetoxyscirpenol (DAS)	Fusarium	≤3.2	3.3~6.4	≥6.5	1.0	5.6
T-2 toxin	Fusarium	≤0.1	0.2~0.3	≥0.4	<0.1	0.9
Satratoxin G	Stachybotrys chartarum	≤0.1	0.2~0.3	≥0.4	<0.1	0.5
Satratoxin H	Stachybotrys chartarum	≤0.1	0.2~0.3	≥0.4	<0.1	0.2
Isosatratoxin F	Stachybotrys chartarum	≤0.1	0.2~0.3	≥0.4	<0.1	0.2
Roridin A	Stachybotrys chartarum	≤5.7	5.8~11.4	≥11.5	1.0	0.2
Roridin H	Stachybotrys chartarum	≤6.3	6.4~12.6	≥12.7	19.3	0.3
Roridin L-2	Stachybotrys chartarum	≤5.1	5.2~10.2	≥10.3	4.0	0.7
Verrucarin J	Stachybotrys chartarum	≤6.9	7.0~13.8	≥13.9	<0.1	1.0

### Comments

#### Roridin H

Roridin H is produced mainly by *Stachybotrys* and categorized as a trichothecene mycotoxin. There are reports showing the involvement of these trichothecene in the development of 'sick building syndrome'. These trichothecenes were found in air samples in the ventilation systems of private houses and office buildings, and on the walls of houses with high humidity. The symptoms of airborne toxicosis disappeared when the buildings and ventilation systems were thoroughly cleaned.<sup>25</sup>

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## Urinary Creatinine

Test Name (mg/ml)	Species Name	In Control	Moderate	High	Current Level	Previous Level (08/20/2015)
Urine Creatinine		0.2~2.2		≤0.1 ≥2.3	2.0	<0.1

## Key Terms/Glossary

### **Mycotoxin**

A toxic substance produced by a fungus

### **Antibacterial Compound**

A compound active against bacteria to kill or remove them from the body

### **Anthelmintic Compound**

A group of antiparasitic drugs that expel parasitic worms (helminths) and other internal parasites from the body by either stunning or killing them and without causing significant damage to the host.

### **Antifungal**

A pharmaceutical fungicide or fungistatic used to treat and prevent mycosis.

### **Detoxification**

Physiological or medicinal process of removal of toxic substances from a living organism, including the human body

### **Sick building syndrome**

Medical condition where people in a building suffer from symptoms of illness or feel unwell for no apparent reason

### **Hepatocarcinoma**

The most common primary liver tumor

### **Antischistosomal**

An agent capable of affecting the viability of schistosomes

### **Sequestering agent**

Nonabsorbable material capable of binding toxins in the gastrointestinal tract and reducing enterohepatic recirculation and ultimately the body burden of toxins.

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## Risk and Limitations

This test has been developed and its performance characteristics determined by Vibrant America LLC., a CLIA and CAP certified lab. These assays have not been cleared or approved by the U.S. Food and Drug Administration.

Mycotoxins do not demonstrate absolute positive and negative predictive values for mold related illnesses. Clinical history must be incorporated into the diagnostic determination. Quantification of mycotoxins in urine is not FDA-recognized diagnostic indicator of mold exposure.

Mycotoxins testing is performed at Vibrant America, a CLIA certified laboratory and utilizes ISO-13485 developed technology. Vibrant America has effective procedures in place to protect against technical and operational problems. However, such problems may still occur. Examples include failure to obtain the result for a specific mycotoxin due to circumstances beyond Vibrant's control. Vibrant may re-test a sample in order to obtain these results but upon re-testing the results may still not be obtained. As with all medical laboratory testing, there is a small chance that the laboratory could report incorrect results. A tested individual may wish to pursue further testing to verify any results.

The information in this report is intended for educational purposes only. While every attempt has been made to provide current and accurate information, neither the author nor the publisher can be held accountable for any errors or omissions.

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