



New Report Style, Interpretations, and Updated Ranges for the MycoTOX Profile

GPL is pleased to announce some changes and improvements to our MycoTOX Profile (mold exposure). We believe these changes will improve the test and make it an even more valuable and comprehensive tool for your practice!

- **We are changing the look of the report:**
 - We have received a lot of feedback and questions about the appearance of the report. We are changing the labels on the top of the report. We now have a Normal Range label and an Abnormal Range label.
 - Normal Range: Samples from 100 healthy volunteers were run to obtain this range. Our range is the median value plus 2 standard deviations.
 - Abnormal Range: This range is in red and utilized data that we obtained from 5000 samples. The red bar goes to the 70th percentile of quantifiable amounts at the right
- **We have updated our interpretations:**
 - We have gathered new, clinically-relevant information since our last test interpretations were updated. This includes scientific manuscripts, books, and presentations that we have attended. We strive to compile these data in order to make it easier for you to treat your patients.
- **We have updated some of the reference ranges in the MycoTOX Profile:**
 - We have updated both the normal range and abnormal range for almost all of our markers. We are continuing to analyze the data that we are obtaining from running thousands of mycotoxin samples. Since we are one of the few labs that produce quantifiable mycotoxin data, we must rely on our own data to make these ranges. We are also utilizing practitioner input and input from the Organic Acids Test to determine what are safe levels of any of these mycotoxins.

We hope you'll find these new changes and additions to the MycoTOX Profile helpful and that this test will continue to be an important tool for you for assessing mold exposure.

Sincerely,

President and C.E.O
The Great Plains Laboratory, Inc.



The Great Plains Laboratory, Inc.

William Shaw, Ph.D Director

11813 W. 77th Street, Lenexa, KS 66214

(913) 341-8949

Fax (913) 341-6207

Requisition #: 758646 Physician Name: NO PHYSICIAN
 Patient Name: Areej Khataybh Date of Collection: Dec 11, 2019
 Date of Birth: Dec 6, 1982 Time of Collection: 09:50 AM
 Gender: F Print Date: Jan 6, 2020

Mycotox Profile

Creatinine Value: 196.60 mg/dl

Metabolite	Results (ng/g creatinine)	Normal Range *	Abnormal Range
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Aspergillus

Aflatoxin-M1	0.50	< 0.5	▲ 0.5
Ochratoxin A	33.82	< 7.5	▲ 7.5
Glilotoxin	1758.44	< 200	▲ 200

Penicillium

Sterigmatocystin	0.00	< 0.4	▲ 0.4
Mycophenolic Acid	853.94	< 37.4	▲ 37.4

Stachybotrys

Roridin E	0.00	< 0.2	▲ 0.2
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* The normal range was calculated using the median + 2 times the standard deviation

Testing performed by The Great Plains Laboratory, Inc., Lenexa, Kansas. The Great Plains Laboratory has developed and determined the performance characteristics of this test. The test has not been evaluated by the U.S. Food and Drug Administration. The FDA does not currently regulate such testing.



William Shaw, Ph.D Director

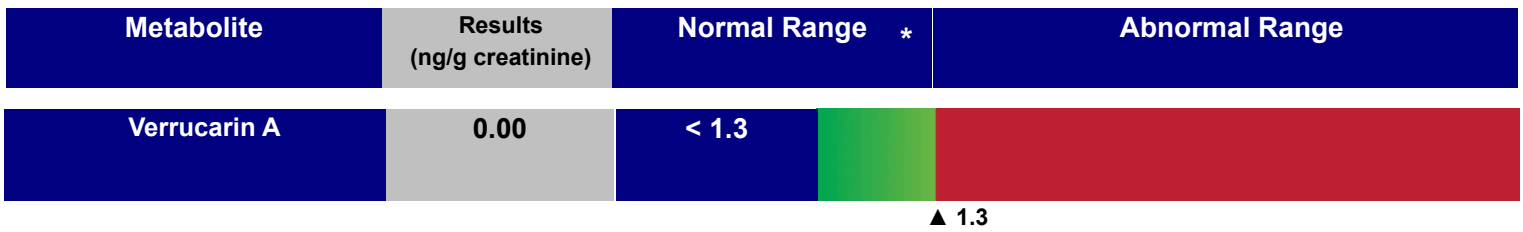
11813 W. 77th Street, Lenexa, KS 66214

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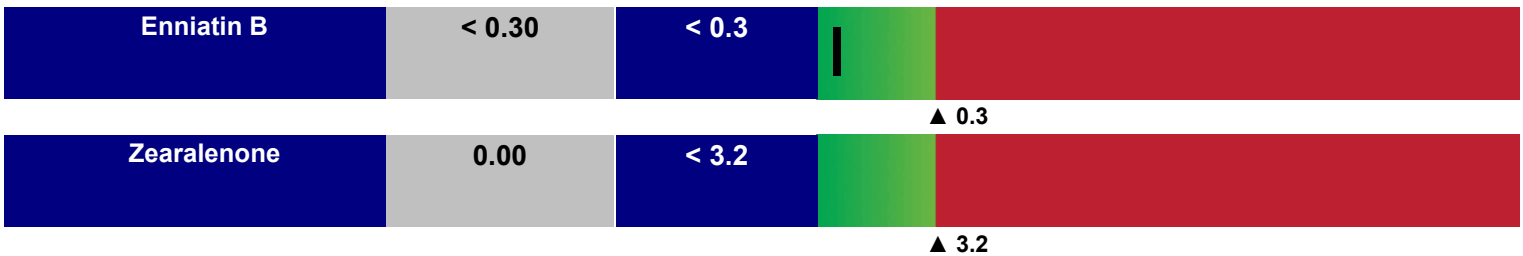
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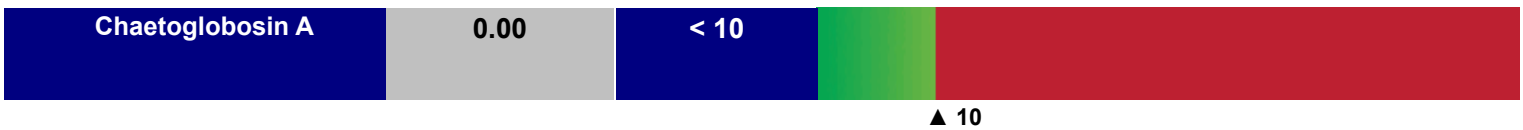
Mycotoxin Profile



Fusarium



Chaetomium globosum



Multiple Mold Species



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Aflatoxin M1: Aflatoxin M1 (AFM1) is the main metabolite of aflatoxin B1, which is a mycotoxin produced by the mold species *Aspergillus*. Aflatoxins are some of the most carcinogenic substances in the environment. Aflatoxin susceptibility is dependent on multiple different factors such as age, sex, and diet. Aflatoxin's main source is water damage in buildings. Aflatoxin can also be found in beans, corn, rice, tree nuts, wheat, milk, eggs, and meat. Aflatoxin can lead to liver damage, cancer, mental impairment, abdominal pain, hemorrhaging, coma, and death. Aflatoxin has been shown to inhibit leucocyte proliferation. Clinical signs of aflatoxicosis are non-pruritic macular rash, headache, gastrointestinal dysfunction (often extreme), lower extremity edema, anemia, and jaundice. Treatment should include fluid support to prevent dehydration. The toxicity of Aflatoxin is increased in the presence of Ochratoxin and Zearalenone. Aflatoxin is removed through the glutathione S-transferase system. This system can conjugate activated aflatoxin with reduced glutathione. This leads to aflatoxin becoming more water soluble, which assists in its excretion. It is theorized that variations in levels of P450s, glutathione transferase, and transporters can account for the variation in response patients have to aflatoxin exposure. In addition to glutathione, the use of binders is also recommended. Starting suggested dosage is to take 1-2 capsules of G.I. Detox™*, 1-2x daily, 1 hour apart from food, supplements and medication as needed. To treat possible fungal infections caused by mold exposure patients can take pharmaceutical medications such as itraconazole or nystatin. Patients can also take 2 capsules of Candida Formula* 2x daily with food for 3 months, 2 hours apart from probiotics. Retesting is recommended after 3-6 months of treatment.

(PMID: 11724948, 12628519, 27017951, 26596546, 15027811, 15531656, 12573908, 20381597, 27470613, 18286403, 10050868, 7585637, 16762476, 16019795, 18286403)



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Ochratoxin: Ochratoxin A (OTA) is a nephrotoxic, immunotoxic, and carcinogenic mycotoxin. This chemical is produced by molds in the *Aspergillus* and *Penicillium* families. Exposure is done primarily through water damaged buildings. Minimal exposure can occur through contaminated foods such as cereals, grape juices, dairy, spices, wine, dried vine fruit, and coffee. Exposure to OTA can also come from inhalation exposure in water-damaged buildings. OTA can lead to kidney disease and adverse neurological effects. Studies have shown that OTA can lead to significant oxidative damage to multiple brain regions and is highly nephrotoxic. Dopamine levels in the brain of mice have been shown to be decreased after exposure to OTA. Some studies have hypothesized that OTA may contribute to the development of neurodegenerative diseases such as Alzheimer's and Parkinson's. Treatment should be aimed at removing the source of exposure. Agents such as oral cholestyramine, charcoal, and phenylalanine can help prevent the absorption of these toxins from food. Antioxidants such as vitamins A, E, C, NAC, rosmarinic acid, and liposomal glutathione alone or in combination have been shown to mitigate the oxidative effects of the toxin. Bentonite or zeolite clay is reported to reduce the absorption of multiple mycotoxins found in food, including OTA. Studies have also shown that OTA is present in sweat, which supports the use of sauna as a treatment to increase the excretion of OTA. The use of binders is recommended, take 1-2 capsules of G.I. Detox™*, 1-2x daily, 1 hour apart from food, supplements and medication as needed. To treat possible fungal infections caused by mold exposure patients can take pharmaceutical medications such as itraconazole or nystatin. Patients can also take 2 capsules of Candida Formula* 2x daily with food for 3 months, 2 hours apart from probiotics. Retesting is recommended after 3-6 months of treatment.

(PMID 17195275, 16293235, 27521635, 22069626, 24792326, 22253638, 16140385, 2467220, 16844142, 19148691, 22069658, 16019795, 18286403, 15781206, 11439224, 17092826, 32710148)

Gliotoxin: Gliotoxin (GTX) is produced by the mold genus *Aspergillus*. *Aspergillus* spreads in the environment by releasing conidia which are capable of infiltrating the small alveolar airways of individuals. In order to evade the body's defenses *Aspergillus* releases Gliotoxin to inhibit the immune system. One of the targets of Gliotoxin is PtdIns (3,4,5) P3. This results in the downregulation of phagocytic immune defense, which can lead to the exacerbation of polymicrobial infections. Gliotoxin impairs the activation of T-cells and induces apoptosis in monocytes and in monocyte-derived dendritic cells. These impairments to dendritic cells can lead to multiple neurological syndromes. The use of binders is recommended, take 1-2 capsules of G.I. Detox™*, 1-2x daily, 1 hour apart from food, supplements and medication as needed. To treat possible fungal infections caused by mold exposure patients can take pharmaceutical medications such as itraconazole or nystatin. Patients can also take 2 capsules of Candida Formula* 2x daily with food for 3 months, 2 hours apart from probiotics. Retesting is recommended after 3-6 months of treatment.

(PMID: 16712786, 27048806, 21575912, 23278106).



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Mycophenolic Acid: Mycophenolic Acid (MPA) is an antifungal, antibacterial, and antiviral mycotoxin acid. It is produced by the Penicillium fungus. MPA is an immunosuppressant which inhibits the proliferation of B and T lymphocytes. MPA exposure can increase the risk of opportunistic infections such as clostridia and Candida. MPA is associated with miscarriage and congenital malformations when the woman is exposed in pregnancy. The use of binders is recommended, take 1-2 capsules of G.I. Detox™*, 1-2x daily, 1 hour apart from food, supplements and medication as needed. To treat possible fungal infections caused by mold exposure patients can take pharmaceutical medications such as itraconazole or nystatin. Patients can also take 2 capsules of Candida Formula* 2x daily with food for 3 months, 2 hours apart from probiotics. Retesting is recommended after 3-6 months of treatment.

(PMID: 858824, 28646113, 27809954, 27599910)

*These products can be purchased through New Beginnings Nutritionals, www.nbnus.com, 913-754-0458.