The Great Plains Laboratory, LLC

MycoTOX Profile

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Correlations With Mold in Various Chronic Illnesses

GENERAL DESCRIPTION

Mycotoxins are some of the most prevalent toxins in the environment. Mycotoxins are metabolites produced by fungi like mold, which can infest buildings, vehicles, and foodstuffs. A majority of mycotoxin exposures are through food ingestion or airborne exposure. In the European Union, 20% of all grains harvested have been found to be contaminated with mycotoxins. Unfortunately, mycotoxins are resistant to heat and many processing procedures.

Diseases and symptoms linked to mycotoxin exposure include fever, pneumonia-like symptoms, heart disease, rheumatic disease, asthma, sinusitis, cancer, memory loss, vision loss, chronic fatigue, skin rashes, depression, ADHD, anxiety, and liver damage. With our new MycoTOX Profile, we can identify mycotoxin exposures and make recommendations for detoxification treatments that have been effective.

CLINICAL USEFULNESS

- **MycoTOX screens for 11 different mycotoxins, from 40 species of mold, in one urine sample.**
- **MycoTOX uses the power of advanced mass spectrometry (MS/MS), which is necessary to detect lower levels of these fungal toxins. This test is optimal for follow up testing to ensure that detoxification therapies have been successful.**
- **MycoTOX pairs perfectly with the Organic Acids Test (OAT), GPL-TOX (Toxic Non-Metal Chemical Profile), and the Glyphosate Test. This gives you comprehensive testing to assess exposure to common environmental toxins and the damage that can be caused by this exposure, all at a great value, and all from one urine sample.**

SPECIMEN REQUIREMENTS

10 mL of the first morning urine before food or drink is suggested. Fasting for 12 hours may increase the excretion of mycotoxins from the adipose tissue. However, fasting is not recommended if running this test in combination with other urine tests.

MARKERS IN THE MYCOTOX PROFILE

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.

Ochratoxin A (OTA) is a nephrotoxic, immunotoxic, and carcinogenic mycotoxin. This chemical is produced by molds in the Aspergillus and Penicillium families. Exposure is primarily through contaminated foods, but it also come from inhalation exposure in water-damaged buildings.

Sterigmatocystin (STG) is a mycotoxin that is closely related to aflatoxin. STG is produced from several species of mold such as Aspergillus and Penicillium. STG has been found in the dust from damp carpets. It is also a contaminant of many foods.

Roridin E is a macrocyclic trichothecene produced by the mold species Fusarium, Myrothecium, and Stachybotrys. Even low levels of exposure to macrocyclic trichothecenes can cause severe neurological damage, immunosuppression, endocrine disruption, cardiovascular problems, and gastrointestinal distress.

Verrucarin A is a macrocyclic trichothecene mycotoxin produced from Stachybotrys, Fusarium, and Myrothecium. Trichothecenes are frequently found in buildings with water damage but can also be found in contaminated grain.

Enniatin B1 is a fungal metabolite categorized as cyclohexa depsipeptides toxin produced by the fungus Fusarium. This strain of fungus is one of the most common cereal contaminants. Chronic exposure to enniatin may lead to weight loss, fatigue, and liver disease.

Zearalenone (ZEA) is a mycotoxin that is produced by the mold species Fusarium. It is commonly found in several foods including wheat, barley, rice, and maize. ZEA has estrogenic activity and exposure to ZEA can lead to reproductive changes.

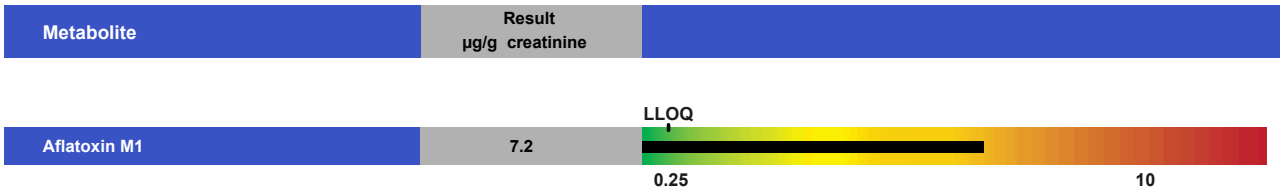
Gliotoxin (GTX) is produced by the mold genus Aspergillus. Aspergillus spreads in the environment by releasing conidia which are capable of infiltrating the small alveolar airways of individuals. In order to evade the body's defenses Aspergillus releases Gliotoxin to inhibit the immune system. One of 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 can lead to multiple neurological syndromes.

Mycophenolic Acid (MPA) 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.

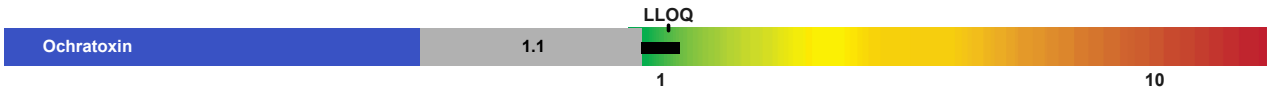
Dihydrocitrinone is a metabolite of Citrinin (CTN), which is a mycotoxin that is produced by the mold species Aspergillus, Penicillium, and Monascus. CTN exposure can lead to nephropathy, because of its ability to increase permeability of mitochondrial membranes in the kidneys. The three most common exposure routes are through ingestion, inhalation, and skin contact. CTN has been shown to be carcinogenic in rat studies. Multiple studies have linked CTN exposure to a suppression of the immune response.

Chaetoglobosin A (CHA) is produced by the mold Chaetomium globosum (CG). CG is commonly found in homes that have experienced water damage. Up to 49% of water-damaged buildings have been found to have CG. CHA is highly toxic, even at minimal doses. CHA disrupts cellular division and movement. Most exposure to CG is through the mycotoxins because the spores tend not to aerosolize. Exposure to CHA has been linked to neuronal damage, peritonitis, and cutaneous lesions.

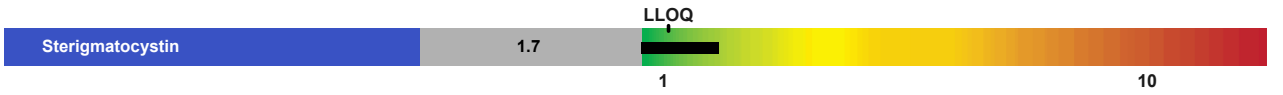
Mycotoxins



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. Clinical signs of aflatoxicosis are non-pruritic macular rash, headache, gastrointestinal dysfunction (often extreme), lower extremity edema, anemia, and jaundice.



Ochratoxin A (OTA) is a nephrotoxic, immunotoxic, and carcinogenic mycotoxin. This chemical is produced by molds in the *Aspergillus* and *Penicillium* families. Exposure is primarily 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.



Sterigmatocystin (STG) is a mycotoxin that is closely related to aflatoxin. STG is produced from several species of mold such as *Aspergillus, Penicillium,* and *Bipolaris*. It is considered to be carcinogenic, particularly in the cells of the GI tract and liver. STG has been found in the dust from damp carpets. It is also a contaminant of many foods including grains, corn, bread, cheese, spices, coffee beans, soybeans, pistachio nuts, and animal feed.

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