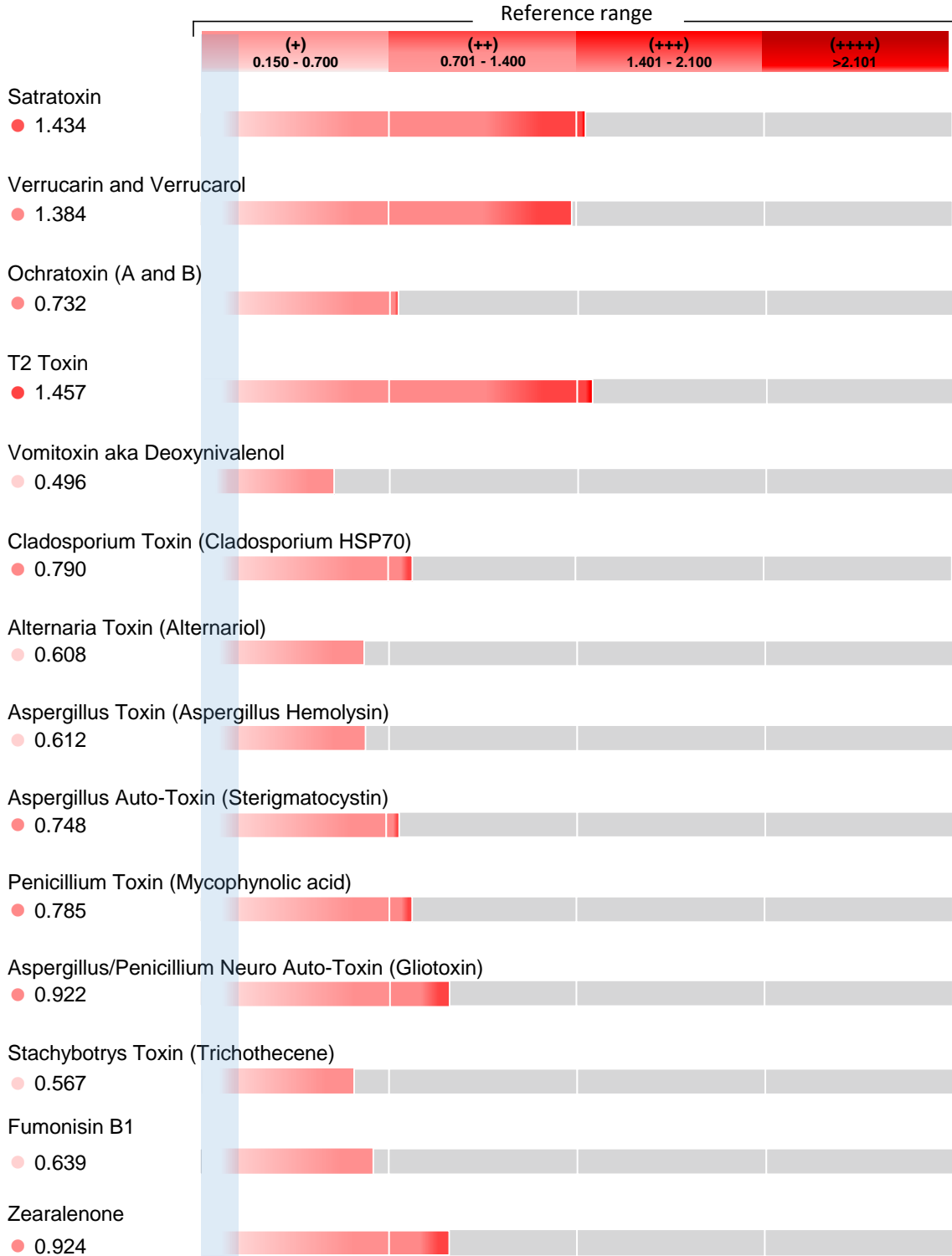


Test results for IgG antibodies



Name of patient:
 DOB:
 Order ID:
 Doctor:



Order Date:

Values <0.150 are considered normal

Report Date:

Test results for IgE antibodies

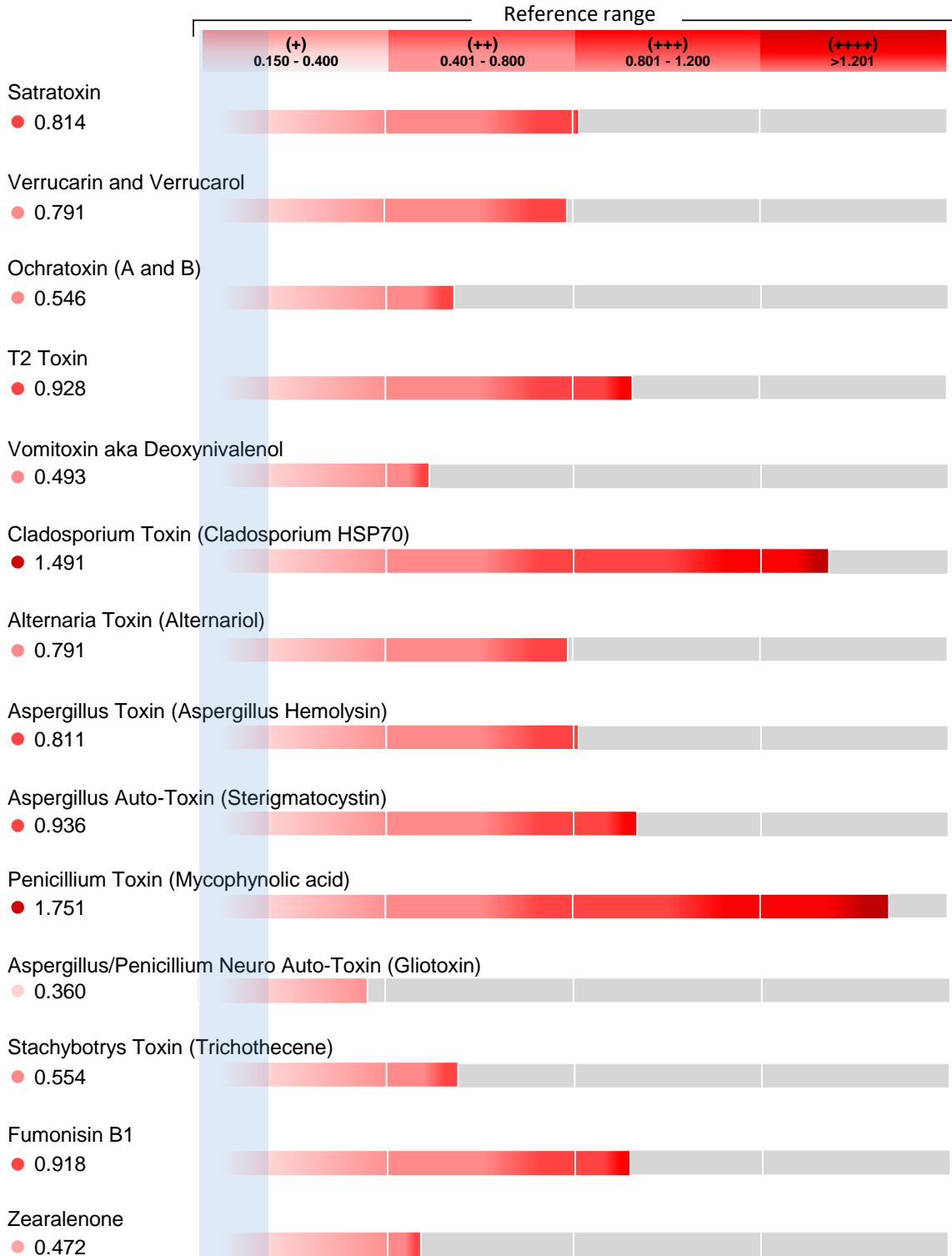


Name of patient:

DOB:

Order ID:

Doctor:



Order Date:

Values <0.150 are considered normal

Report Date:

IgG and IgE SERUM TESTING FOR MYCOTOXINS

What is written below is from published medical journals. It is all evidence based.

Important Fact:

Toxin producing molds are ALWAYS PRESENT in water damaged homes or workplaces.

There is a great deal of accepted evidence and proof in medical science that is non-controversial on mycotoxin exposure causing immune dysregulation, neurological disorders, cancer, and many other health issues.

You should discuss any of this with your clinicians.

These are very brief explanations of each mycotoxin:

Satratoxin: is a trichothecene mycotoxin mainly produced by *Stachybotrys*, also known as “black mold” and is one of the most potent mycotoxins. It is known to cause neurotoxicity and inflammation in the brain and induces apoptosis of the olfactory sensory neurons.

Satratoxin can cause fatigue, headaches, nosebleeds, pulmonary hemorrhage, chest pain, moist dermatitis, and fever. It is neurotoxic and causes neurocognitive symptoms. Individuals exposed to Satratoxin can develop a chronic immune response (inflammation and oxidative stress) leading to brain and nerve cell damage.

Verrucarol and Verrucarol: are trichothecene mycotoxins mainly produced by *Fusarium* and *Aspergillus* species and are known to cause tremors, immune toxicity, inflammation, are cytotoxic, and are potent protein synthesis inhibitors.

Ochratoxin: can cause immune suppression, lung disease, urinary tract tumors, and is toxic to kidneys, liver, and is carcinogenic (causes cancer). This is due to its ability to affect DNA and inhibit protein synthesis. Ochratoxin can potentiate the effects of IL-1 β on IL-8 secretion with a range of 35% to 138% increase and augments the transepithelial passage of commensal bacteria with a 12- to 1522-fold increase.

Studies have shown it causes leaky gut syndrome and changes the nutrients that are absorbed from foods. It cannot be excreted in urine. The highest Ochratoxin levels are found in breast milk.

Ochratoxin's major targets are:

Liver

Kidney

Brain

Skeletal muscle

Fat tissue

Ochratoxin crosses the placenta.

T2 Toxin: are trichothecene mycotoxins and are the only mycotoxins that have been used in biological warfare. They can cause diarrhea, vomiting, and intestinal hemorrhage, as well as changes in reproductive cycles and infertility. This mycotoxin is known to decrease testosterone.

Vomitoxin aka Deoxynivalenol: are trichothecene mycotoxins and can destroy intestinal barrier function, resulting in anorexia, inflammatory bowel disease and celiac disease. They can increase IL-8 secretion with a 10- to 15-fold increase. This mycotoxin can affect both estrogen and testosterone.

Cladosporium Toxin (Cladosporium HSP 70): The airborne spores of Cladosporium species are significant allergens, and they can severely affect asthmatics and people with respiratory diseases. Cladosporium also produce volatile organic compounds (VOCs), which are neurotoxic. Severe headaches, seizures, and sleepiness are the most common clinical manifestations.

Alternaria Toxin (Alternariol): is cytotoxic (toxic to cells), mutagenic (causes mutations), genotoxic (genes), and causes immune suppression. This mycotoxin is also known to form reactive oxygen species (ROS), causing inflammation, and to lower testosterone.

Aspergillus Toxin (Aspergillus Hemolysin): can cause immune suppression and is carcinogenic. It is toxic to cells (cytotoxic) especially neutrophils and macrophages. It is a hemolytic mycotoxin, meaning it destroys red blood cells.

Aspergillus Auto-Toxin (Sterigmatocystin): carcinogenic (causes cancer), mutagenic (causes mutations), and teratogenic (causes malformations of the fetus), hepatotoxic (liver); can cause autoimmune diseases.

Penicillium Toxin (Mycophynolic acid): can cause immune suppression.

Asp/Pen Neuro Auto-Toxin (Gliotoxin): can cause immune suppression, neurotoxicity (has been linked to multiple sclerosis and others), and immune toxicity. It is toxic to genes (genotoxic) and show potent cytotoxic activity against white blood cell (leukocytes) such as macrophages and polymorphonuclear leukocytes at extremely low concentrations.

Stachybotrys Toxin (Trichothecene): Trichothecene mycotoxins can cause the following:

Vascular system: increased vascular fragility (blood vessels), pulmonary hemorrhage or hemorrhage into body tissues.

Nervous system: tremors, headaches, seizures, sleep disturbance, incoordination, and depression. It can also cause demyelination of nerves leading to Chronic Inflammatory Demyelinating Polyneuropathy (CIDP).

Digestive system: vomiting, diarrhea, liver toxicity, intestinal hemorrhage, and anorexia. It is a cause of intestinal permeability.

Cutaneous (skin) system: rash, photosensitization, sloughing of skin, burning sensation.

Endocrine system: decrease in testosterone in men and women; increase in estrogens in men and women.

Fumonisin B1: the mycotoxin fumonisin b1 comes mainly from Fusarium molds. It is hepatotoxic, nephrotoxic, and can cause esophageal cancer. It inhibits sphingolipid metabolism, which adversely affects the brain, and can cause depression that is resistant to antidepressant medications. It also causes mitochondrial dysregulation.

Zearalenone: is an estrogenic mycotoxin that has major effects on reproduction in women and affects men as well. It can cause a decrease on embryo survival and a reduction of fetal weight as well as reduced milk production. It can cause premature breast development and precocious puberty in young girls. In men, testosterone and spermatogenesis are reduced. Zearalenone is hepatotoxic, immunotoxic, and causes mitochondrial dysregulation.

Foods and mycotoxins

According to the National Institute for Occupational Safety and Health (NIOSH), a part of the Centers for Disease Control and Prevention (CDC), very low levels of mycotoxins are found in many foods.

Vomitoxin aka Deoxynivalenol comes from Fusarium mold found indoors. Although Fusarium also effects grains, the amount of grains we would have to eat is enormous. The average adult would have to eat over 14 pounds of oatmeal daily or 20 slices of bread daily. A study shows the following:

To illustrate a worst-case acute exposure, the amount of oat flakes or wheat bread a person would have to consume to reach the Acute Reference Dose (ARfD) was estimated using the highest measured concentrations.

A 2-year-old child with a body weight of 28.2 lbs., would have to consume 4.7 oz oat flakes, corresponding to about 38.8 oz ready-to-eat oatmeal porridge, (about 2.5 lbs.) or 3.2 oz wheat, corresponding to 4.7 oz-based bread (approximately 3.5 slices of bread), to exceed the ARfD.

An adult with a body weight of 170.9 lbs. would have to consume 28.2 oz oat flakes, corresponding to about 14.3 lbs. ready-to-eat oatmeal porridge, or 19.5 oz wheat, corresponding to 28.2 oz bread (20 slices of bread), to exceed the ARfD.

(Sundheim L, Lillegaard IT, Faeste CK, Brantsaeter AL, Brodal G, Eriksen GS, 2017 Feb 4;9 (2):46).

For that reason, they are routinely present in the urine of healthy people. Therefore, it does not mean that person is suffering from any disease or disorder related to molds or mycotoxins. The amount of mycotoxins in food and beverages is in parts per billion and do not affect the health of humans. Even milk may contain mycotoxins.

IgG and IgE antibodies

Immunoglobulin G (IgG) is the predominant immunoglobulin present in human serum. This immunoglobulin constitutes approximately 75% of total serum immunoglobulin. IgG is the only immunoglobulin that can cross the placenta in humans, and it is largely responsible for protection of the newborn during the first months of life. Because of its relative abundance and excellent specificity toward antigens, IgG is the principal antibody used in clinical diagnostics and immunological research.

IgG antibodies to mycotoxins means current immune reaction to mycotoxins, in other words, most likely from the living or work environment. There also can be colonization from previous exposure, most commonly in the sinuses, causing chronic sinus problems, and in the lungs, causing chronic lung symptoms.

The **IgE antibodies** to mycotoxins are often associated with allergies. IgE antibodies to mycotoxins cause mast cells to release histamine, heparin and other compounds called cytokines. These cytokines cause inflammation and can trigger what is known as mast cell activation. Mast cells are located near blood vessels, nerves, and the lymphatic system. Many inflammatory diseases involve mast cells, such as arthritis, atopic dermatitis, psoriasis, and multiple sclerosis.

(Sundheim L, Lillegaard IT, Faeste CK, Brantsaeter AL, Brodal G, Eriksen GS, 2017 Feb 4;9 (2):46).
