



Verisana LAB · c/o Brian Kalish · 818 N Quincy Street · Unit 806 · Arlington VA 22203

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<b>Surname, First name</b>	Smith, John
<b>DOB</b>	not specified
<b>Sex</b>	male
<b>Laboratory #</b>	210000000000
<b>Date collected</b>	01/25/2019
<b>Date received</b>	01/28/2018
<b>Report date</b>	02/01/2019

## Laboratory report

Enclosed you will find the results of your laboratory examination. In addition to your results you will also receive a brief summary of the correlating effects, regarding the tested parameters. These are compiled without any knowledge on the clinical background and as such, may only be used as an interpretation aid. In case of health problems, please consult a doctor or practitioner for medical treatment and accompaniment for making the best decisions for your health. We explicitly warn against beginning, suspending or changing any medication or therapy without consulting your doctor or practitioner.

**Test:** Keto Inflammation Test

**Sample material:** Blood Spot & Stool

Analyte	Result	Reference range	Result
<b>Inflammation</b>			
Alpha-1-antitrypsin	50	< 40 mg/dl	
hs-CRP	7	< 6 mg/l	
Secretory IgA	150	510-2040 µg/ml	
Calprotectin	75	< 50 mg/kg	
Lysozyme	800	< 600 ng/ml	



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**Inflammation** is an essential part of healthy immune function that enables our bodies to recognize and respond to infection and injury. However, aberrant, chronic low-grade inflammation is a driver in major health problems. The ability of the **ketogenic diet** to modulate immune response can help to reduce any of the above inflammation markers that are higher than the reference range.

**Alpha-1-antitrypsin** is produced by the liver and cells of the gut. Its concentration rises whenever there is tissue injury, necrosis, infection or inflammation. Only a very small amount of alpha-1-antitrypsin is normally present in the gastrointestinal tract. Therefore, high concentrations of Alpha-1-antitrypsin in stool reflect permeability of the gut during inflammatory processes. Abnormal intestinal permeability is caused by damage to one of the intestinal wall layers, resulting in Leaky Gut Syndrome.

**C-reactive protein (CRP)** is released into the blood by the liver in response to any kind of inflammation. Its level rises and falls rapidly after worsening or improvement of the inflammatory situation, making it a useful marker for monitoring disease activity. A variety of conditions including acute bacterial and viral illnesses, rheumatic arthritis, and many other inflammatory diseases, are usually associated with increased levels (sometimes greater than 10 mg/L). When CRP remains high, it is an indication of chronic systemic inflammation that is also associated with higher risk of developing cardiovascular disease. Increases in CRP values would warrant further investigations and should not be interpreted without a complete clinical evaluation.

**Secretory IgA (sIgA)** is an immune protein, which reacts anti-inflammatory. It coats the intestinal lining, especially the mucosal surfaces, and is supposed to protect us against food residues, toxins, and potential pathogens. As secretory IgA represents the first line of defense, immunological activity in the gut can be assessed using secretory IgA. Reduced levels of fecal sIgA increase the risk of leaky gut syndrome and promote the growth of microbial pathogens in the intestine. A variety of conditions can cause a decrease, such as damage to the intestinal wall, inflammatory diseases and other ongoing "immune-drainers" (i.e. allergy reactions and food intolerances).

**Calprotectin** is an antimicrobial protein released by cells of the innate immune system. It is a sensitive marker of acute and chronic intestinal inflammatory conditions and is present in proportion to the severity of any existing inflammation, that is associated with mucosal damage. Evaluated calprotectin levels indicate inflammatory or neoplastic changes (abnormal growth of cells) in the bowel. High calprotectin levels alone are not enough to diagnose Inflammatory Bowel Disease (IBD). However, they can help to differentiate between IBD and Irritable Bowel Syndrome. Extremely elevated calprotectin levels associated with increasing clinical symptoms compatible with clinical relapse of IBD (bloody or watery diarrhea, abdominal cramps, with or without fever) should be investigated by endoscopy.



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**Lysozyme** is part of the intestinal mucosal barrier and has antibacterial activity against a number of gram-positive bacterial species. If inflammation levels are high, cells of the innate immune system produce a higher level of lysozyme and secrete it at the site of inflammation in the gastrointestinal tract. Elevated levels of lysozyme indicate inflammatory bowel processes that are associated with significant overgrowth of pathogens such as yeast or harmful bacteria (dysbiosis).

Yours sincerely,  
Your laboratory team