



Verisana LAB · Suite LP22190 · Lower Ground Floor ·  
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John Smith  
Sample Street  
Anytown

<b>Surname, First name</b>	Smith, John
<b>DOB</b>	01-01-1990
<b>Sex</b>	male
<b>Laboratory #</b>	20000001
<b>Date collected</b>	01-01-2019
<b>Date received</b>	01-01-2019
<b>Report date</b>	03-01-2019

## 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:** Comprehensive Gut Biome & Health Test

**Sample material:** stool

Analyte	Result	Reference range	Result
<b>Aerobic Bacteria</b>			
Escherichia coli	<10 <sup>4</sup> KbE/ml	10 <sup>6</sup> -10 <sup>7</sup> KbE/ml	
Proteus spec.	< 10 <sup>4</sup>	< 10 <sup>4</sup>	
Citerobacter spec.	10 <sup>7</sup> -10 <sup>9</sup>	< 10 <sup>4</sup>	

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Analyte	Result	Reference range	Result
Klebsiella spec.	$10^7-10^9$	$< 10^4$	
Other enterobacteriaceae	$10^7-10^9$	$< 10^4$	
Enterococci	$10^6-10^7$	$10^6-10^7$	
Pseudomonas spec.	$10^7-10^9$	$< 10^4$	
<b>Anaerobic Bacteria</b>			
Bacteroides spec.	$< 10^7$	$10^9-10^{11}$	
Bifidobacteria spec.	$< 10^7$	$10^9-10^{11}$	
Lactobacilli spec.	$< 10^4$	$10^5-10^7$	
Clostridia spec.	$10^7-10^9$	$< 10^5$	
<b>Stool ph value</b>			
Ph-Value	6,8	6,2-6,8	
<b>Yeast/Fungi</b>			
Candida albicans	$10^7-10^9$ cfu/ml	$< 10^2$ cfu/ml	
Candida spec.	$10^5-10^6$	$< 10^2$	
Geotrichum candidum	$10^3-10^4$	$< 10^3$	
Yeast	positiv	negative	
Mouth Swab	$< 10^2$	$< 10^2$	
<b>Helicobacter pylori</b>			
Helicobacter pylori antigen	0,05	negative: $< 0,13$ positive: $> 0,17$	

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Analyte	Result	Reference range	Result
<b>Malabsorption</b>			
Pancreatic elastase 1	80	> 200 µg E1/g	
<b>Inflammation</b>			
Alpha-1-antitrypsin	50	< 40 mg/dl	
<b>Gut Mucosal Immunology</b>			
Secretory IgA	103	510-2040 µg/ml	

Escherichia coli (E. coli) is a minority member of the gut microbiome, but a very important one. E. coli bacteria normally live in the intestines of healthy people and stimulates the intestinal immune system (GALT). Ample amounts of Escherichia coli have been associated with a balanced gut flora. Many of us host a population of E. coli in our gut that aids digestion and protects us from other harmful microbes. E. coli ferments to produce folic acid, vitamin K2 (this protects against osteoporosis), Co-enzyme Q10 (essential for mitochondrial function), together with 3 amino acids, namely tyrosine and phenylalanine (these are pre-cursors of dopamine, lack of which results in low mood) and tryptophan. Tryptophan is a pre-cursor of serotonin, which is responsible for gut motility. If there are low counts of E-coli, one can expect problems in all the above areas, i.e. osteoporosis and bone problems, mitochondrial function, low mood and poor gut motility.

Citrobacter species are member of the Enterobacteriaceae family and are less commonly identified as pathogens.

Some Citrobacter strains can cause diarrheal disease. Citrobacter thrive on thrive on Fructooligosaccharides (FOS).

Klebsiella is a bacterium, which belongs to the Enterobacteriaceae family. Klebsiella can be found in the gastrointestinal tract of humans. Klebsiella overgrowth is commonly asymptomatic. Some strains of Klebsiella may cause diarrhea and some are enterotoxigenic. A low-starch diet may be helpful if high levels of Klebsiella are present.

Increased enterobacteriaceae indicate disturbances of the intestinal flora, malnutrition or digestive insufficiencies. A larger amount of these bacteria does not belong in the normal intestinal flora. Their multiplication often results from past antibiotics.

Increased Pseudomonas may be due to an earlier antibiotic therapy.



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Bacteroides is the most abundant bacteria in the microflora, which allows us to digest soluble fibre and make short chain fatty acids. Decreased bacteroides indicate a lowered resistance to pathogenic species (such as salmonella, shigella and clostridia). As oxygen kills bacteroides, there is no probiotic containing it.

Bifidobacteria make up a significant portion of the human gut flora. Along with Lactobacillia and Enterococci, Bifidobacteria control potentially pathogenic organisms and stimulate the intestinal immune system (GALT). Bifidobacteria metabolize carbohydrates only. By doing so, they produce short chain fatty acids, which acidify the intestine and counteract pathogenic organisms. Decreased Bifidobacteria indicate deficiencies in colonisation resistance, putrefaction in the intestine and can promote constipation.

Lactobacilli is a lactic acid forming bacteria, which produces large amounts of short chain fatty acids (SCFA). SCFAs lower the intestinal pH and thereby make the environment alkaline and unsuitable for microbial pathogens (e.g. yeast).

In addition, Lactobacilli secrete antifungal and antimicrobial agents. Decreased Lactobacilli indicate disturbances of the intestinal flora.

Clostridia are prevalent flora in a healthy intestine. As clostridia produce gases it may cause flatulence. Increased Clostridia indicates putrefaction in the intestine and may burden the body with metabolic toxins. Increased clostridia are often found in older people due to changes in their nutrition. Clostridium difficile and Clostridium perfringens are one cause of antibiotic-associated diarrhea.

Increased candida albicans indicates deficiencies in colonisation resistance, disturbances of intestinal flora and or mucosa and/or defects of mucosa. Yeasts may burden the body with toxic metabolites. Some patients respond to even low rates of yeast overgrowth.

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Geotrichum candidum is higher than the reference range. Mould fungi spores reach the intestine through food or over the mucous membranes. Due to no oxygen in the intestine they are normally incapable of causing mycoses in this area.

No detection of Helicobacter pylori antigen in stool indicates that Helicobacter pylori is not active at this time. An individual might, however, have been exposed to Helicobacter pylori at some time.



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Elastase findings can be used for the diagnosis or the exclusion of exocrine pancreatic insufficiency. Reduced pancreatic elastase in stool indicates insufficiency of exocrine pancreatic function. Pancreatic elastase 1 levels below 100 are strongly correlated with severe pancreatic insufficiency.

Alpha-1-antitrypsin is a glycoprotein, which is produced by the liver and cells of the gut. It belongs to the group of acute phase proteins and is a marker of protein loss and permeability of the gut. The measurement of Alpha-1-antitrypsin in stool reflects the permeability of the gut during inflammatory processes. Increased Alpha-1-antitrypsin indicates an increased permeability of the intestinal mucous membrane, which leads to an enteral loss of Alpha-1-antitrypsin.

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 from inside. As secretory IgA represents the first line of defense of the GI, immunological activity in the GI tract can be assessed using secretory IgA. Low levels of fecal sIgA increase the risk of leaky gut syndrome and promote the growth of microbial pathogens in the intestine. The risk of inflammatory immune reactions to undigested food and protein is also increased if low levels of sIgA are present. Low fecal IgA levels can result from physical or mental stress and/or inadequate nutrition.

Yours sincerely,  
Your laboratory team