



**Ordering Physician:**

John Doe, MD

1234 Main St.  
Anywhere, GA 30096



**2200 GI Effects Comprehensive Profile**

Methodology: DNA Analysis, GC/MS, Microscopic, Colorimetric, Automated Chemistry, EIA

Results | Quintile Ranking (1st, 2nd, 3rd, 4th, 5th) | 95% Reference Range | Consistency = Formed/Normal

**Predominant Bacteria**

E+007

**Obligate Anaerobes**

Organism	Value	Quintile Ranking	95% Reference Range
Bacteroides spp.	3.7	4th	>= 1.3
Clostridia spp.	7.6	5th	>= 1.0
Prevotella spp.	2.3	2nd	>= 1.1
Fusobacteria spp.	7.1	5th	>= 1.1
Streptomyces spp.	2.4	2nd	>= 1.0
Mycoplasma spp.	3.1	3rd	>= 1.2

**Facultative Anaerobes**

Organism	Value	Quintile Ranking	95% Reference Range
Lactobacillus spp.	3.4	3rd	>= 1.2
Bifidobacter spp.	4.9	4th	>= 1.8
Escherichia coli (E. coli)	6.7	5th	>= 1.1

**Predominant Bacteria** play major roles in health. They provide colonization resistance against potentially pathogenic organisms, aid in digestion and absorption, produce vitamins and SCFA's, and stimulate the GI immune system. DNA probes allow detection of multiple species (spp.) within a genus, so the genera that are reported cover many species.

Organisms are detected by DNA analysis. One colony forming unit (CFU) is equivalent to one bacterium. Each genome detected represents one cell, or one CFU. Results are expressed in scientific notation, so an organism reported as 2.5 E+007 CFU/gram is read as 25 million colony forming units per gram of feces.

**Opportunistic Bacteria**

Expected Value

No clinically significant amounts.

**Opportunistic Bacteria** may cause symptoms and be associated with disease. They can affect digestion and absorption, nutrient production, pH and immune state. Antibiotic sensitivity tests will be performed on all opportunistic bacteria found, although clinical history is usually considered to determine treatment since the organisms are not generally considered to be pathogens.



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### Yeast/Fungi

Expected Value

No clinically significant amounts.

#### Yeast/Fungi

Yeast overgrowth has been linked to many chronic conditions, in part because of antigenic responses in some patients to even low rates of yeast growth. Potential symptoms include diarrhea, headache, bloating, atopic dermatitis and fatigue. Positives are reported as +1, +2, +3 or +4 indicating >100, >1000, >10000 or >100000 pg DNA/g.

### Parasitology

#### Microscopic Exam Results:\*

Dientamoeba fragilis: Few

#### Parasitology

Parasite Recovery: Literature suggests that >90% of enteric parasitic infections are detected in a sample from a single stool collection. Increased sensitivity results from the collection of additional specimens on separate days. Parasites have been detected in 20-24% of U.S. patients with mild to moderate GI symptoms.

#### Parasitology EIA Tests:

	In Range	Out of Range
Cryptosporidium	Negative	
Giardia lamblia	Negative	
E. histolytica/dispar	Negative	

\*Indicates testing performed by Genova, Inc. 63 Zillicoa St., Asheville, NC 28801-1074  
A. L. Peace-Brewer, PhD, D(ABMLI), Lab Director · CLIA Lic. #34D0655571 · Medicare Lic. #34-8475

### Adiposity Index

Expected Value

Firmicutes %	70		<= 80 %
Bacteroidetes %	30		>= 20 %

The **Adiposity Index** is derived by using DNA probes that detect multiple genera of the phyla Firmicutes and Bacteroidetes. Abnormalities of these phyla may be associated with increased caloric extraction from food.

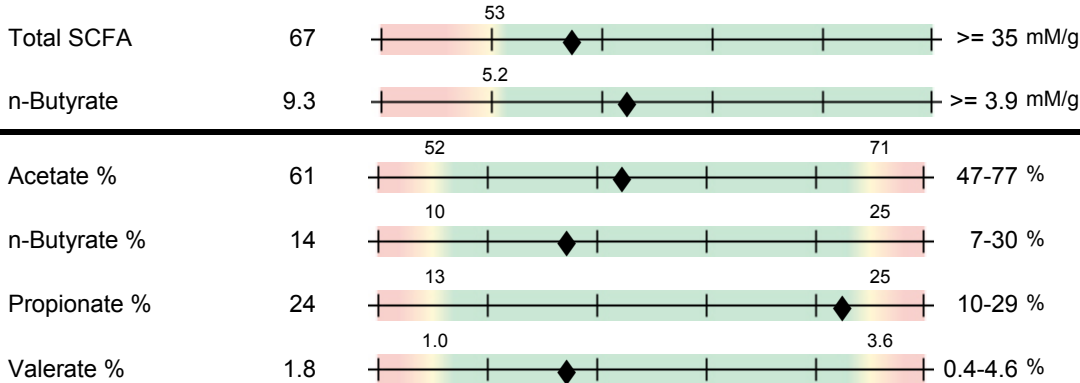


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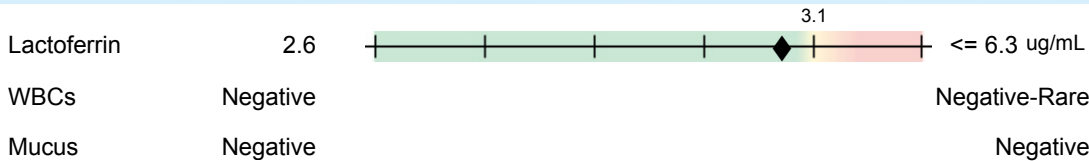


### Beneficial SCFA



**Beneficial SCFA**  
Short chain fatty acids (SCFA) are produced by bacterial fermentation of dietary polysaccharides and fiber. The product, N-butyrate, is taken up and used to sustain the normal activity of colonic epithelial cells. Butyrate has been shown to lower the risk of colitis and colorectal cancer. A healthy balance of GI microbes depends on production of SCFA by one specie to allow the normal growth of another one in a complex cross-feeding network.

### Inflammation



**Inflammation**  
Lactoferrin, an iron-binding glycoprotein, is released in IBD but not in non-inflammatory IBS. High levels are found in Crohn's, UC or infection. WBC's are elevated in general inflammation/infection. Mucus is often visualized in acute GI inflammation.

### Immunology



**Immunology**  
High fecal sIgA indicates immune system reactions to the presence of antigens from bacteria, yeast or other microbes. Low sIgA can result from stress or malnutrition.

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### Additional Tests

pH	6.1	5.9	6.9	5.7-7.1
RBCs	Negative			Negative
Color	Brown			

#### Additional Tests

**pH** is influenced by numerous factors, but it is strongly related to the bacterial release of pH-lowering organic acids and pH-raising ammonia. Positive **RBCs** can signify GI tract bleeding. **Color** (other than brown) abnormalities can be due to upper GI bleeding, or bile duct blockage, steatorrhea or antibiotic use.

### Digestion

Elastase 1	245	200	> 100 ug/g
Triglycerides	112	119	<= 181 mg/dL
Putrefactive SCFA	2.6	4.4	<= 7.4 mM/g
Vegetable Fibers	Rare		None-Few

#### Digestion

**Pancreatic elastase 1** levels below 100 are strongly correlated with severe pancreatic insufficiency; levels of 100-200 identify moderate pancreatic insufficiency. High triglycerides signify fat maldigestion. Putrefactive SCFA are a result of bacterial fermentation of undigested protein. High numbers of vegetable fibers indicate maldigestion.

### Absorption

LCFAs	23.6 H	9.1	<= 15.1 mmol/l
Total Fat	28.2 H	12.9	<= 18.9 mmol/l
Cholesterol	129	142	<= 191 mg/dL

#### Absorption

High **LCFA** indicates fat malabsorption due to pancreatic or biliary insufficiency, or acute bacterial infection that produces intestinal cell destruction. High total fat usually signals malabsorption, as does elevated fecal cholesterol.

\*UC = Unable to Calculate

Decisions involving diagnosis and treatment are the responsibility of the clinician.