

GENOVA
DIAGNOSTICS
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Accession #: [REDACTED]
Order #: [REDACTED]
Reference #: [REDACTED]
Patient: [REDACTED]
Date of Birth: 08/31/1966
Age: 46
Sex: Female
Reprinted:
Comment:

Date Collected: [REDACTED]
Date Received: [REDACTED]
Date of Report: [REDACTED]
Telephone: [REDACTED]
Fax: [REDACTED]

ER

GI *fx* GI Effects
Stool Profiles
U.S. patent pending 2008

2100 Gastrointestinal Function Profile - Stool

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

Effective for samples received Wednesday, June 19, 2013, all positive molecular probe results for *C. difficile*, *H. pylori*, Shiga toxin *E. coli* (*E. coli* 0157) and *Campylobacter* species will be confirmed by EIA analysis. In addition, pathogenic bacteria and opportunistic bacteria will be reported as positive or negative.

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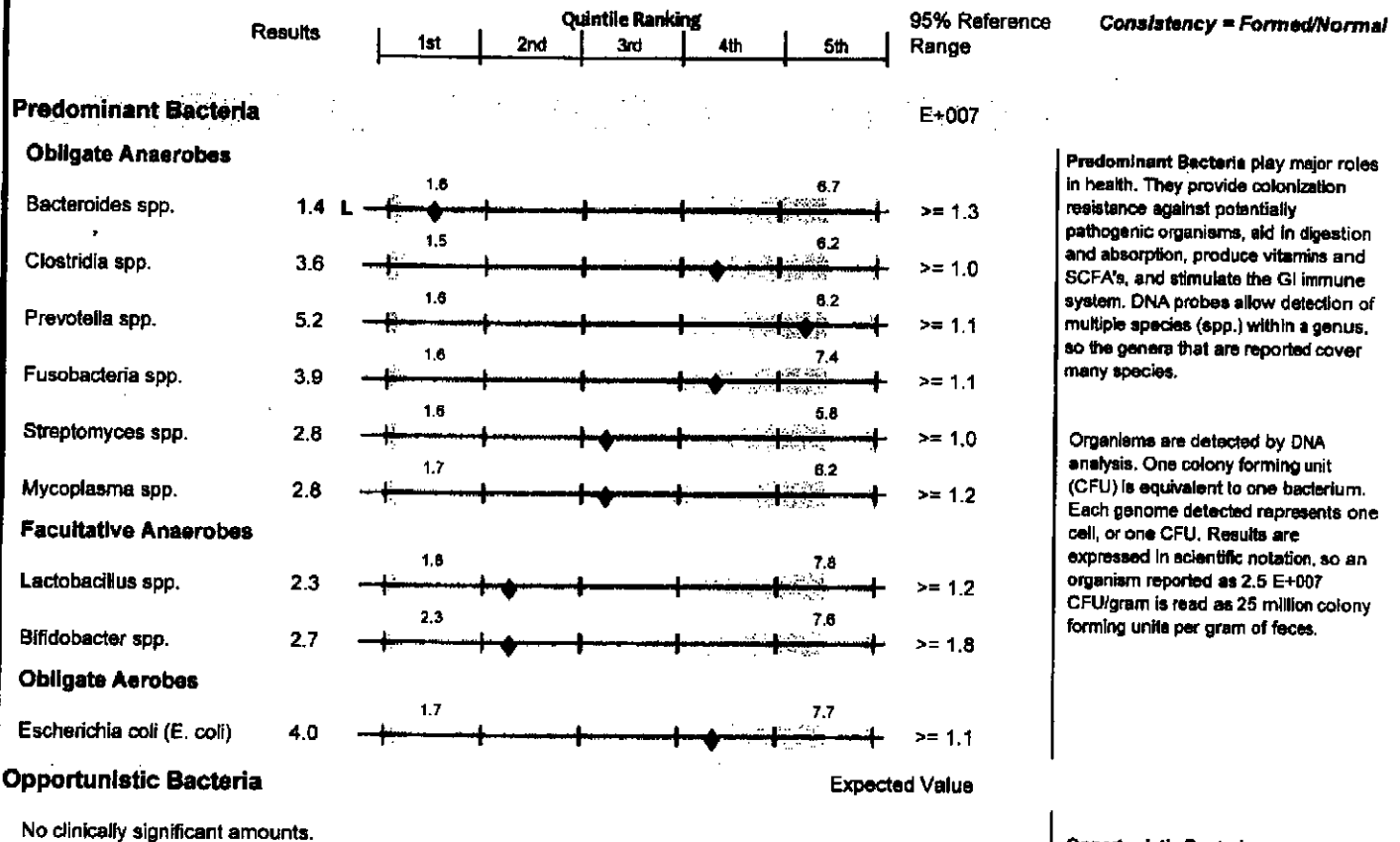
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Pathogenic Bacteria

Expected Value

Helicobacter pylori - Molecular Probe	Negative	Negative
Campylobacter spp. - Molecular Probe	Negative	Negative
Shiga toxin E. coli*	Negative	Negative
Clostridium difficile*	Negative	Negative

*Positive results are confirmed by EIA

Yeast/Fungi

Expected Value

Yeast/Fungi; taxonomy unavailable	+1 => 100 pg DNA/g specimen	Negative
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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.

Parasites

Expected Value



No Ova and Parasites

Parasites

Parasite infections are a major cause of non-viral diarrhea. Symptoms may include constipation, gas, bloating, increased allergy response, colitis, nausea and distention.

Adiposity Index

Expected Value

Firmicutes %	57		<= 80 %
Bacteroidetes %	43		>= 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.

Drug Resistance Genes

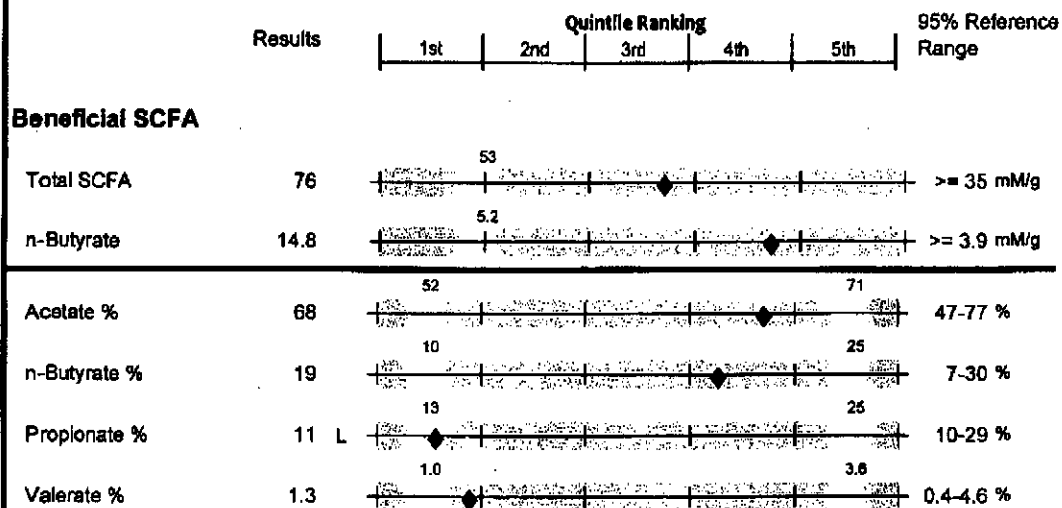
aacA, aphD	Neg
mecA	Neg
vanA, B, and C	Neg
gyrB, ParE	Neg
PBP1a, 2B	Neg

Drug Resistance Genes

aacA, aphD - Gentamycin, Kanamycin, and Tobramycin
mecA - Methicillin
VanA, vanB, vanC - Vancomycin and Telcoplanin
GyrB, ParE - Ciprofloxacin and later quinolones
PBP1a, PBP2B - Penicillin

2100 Gastrointestinal Function Profile - Stool

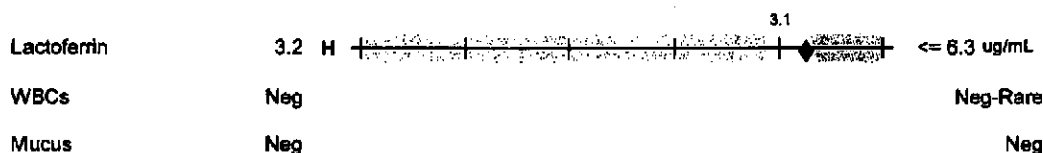
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Beneficial SCFA

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.

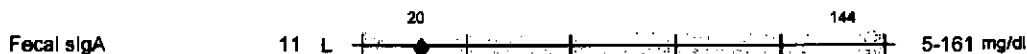
Inflammation



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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Results	Quintile Ranking					95% Reference Range
	1st	2nd	3rd	4th	5th	

Additional Tests

pH	7.9 H	5.9				6.9	5.7-7.1
RBCs	Neg						Neg
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	302	200					> 100 ug/g
Triglycerides	81					119	<= 181 mg/dl
Putrefactive SCFA	2.0					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	3.5					9.1	<= 15.1 mmol/L
Total Fat	5.9					12.9	<= 18.9 mmol/L
Cholesterol	58					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.

Ordering Physician:

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2155 GI Effects® Sensitivity Fungi Profile - Stool

Methodology: DNA Analysis, ELISA

Pharmaceuticals

	Sensitive	Resistant
1. Amphotericin	S	
2. Fluconazole		
3. Itraconazole		
4. Ketoconazole		
5. Nystatin	S	

Botanicals

	Sensitive	Resistant
6. 5-Hydroxy-1,4-naphthoquinone Black Walnut		
7. Alliin Garlic		
8. Arbutin Uva Urei		
9. Artemisinin Wormwood		
10. Berberine Goldenseal	S	
11. Caprylic acid Octanoic acid	S	
12. Carvacrol Oregano	S	
13. Oleuropein Olive Leaf		
14. Quinic Acid Cats Claw		
15. Thymol Oil of Thyme		
16. Undecylenic acid Undecylenic acid	S	

Fungal growth suppression is measured in a liquid growth medium where bacterial growth is suppressed and specific antifungal agents are introduced before incubation. In contrast to the older isolation and culture techniques, such universal culturing more closely approximates the actions of antifungals in the complex milieu of the colon.

Agents marked as "Sensitive" cause effective fungal growth suppression. Those antifungal agents are candidates for suppressing the growth of fungi and yeasts in the patient's colon. The results apply to all organisms reported under "Yeast/Fungi."

Agents indicated as "Resistant" have low effectiveness and can increase the risk of inducing drug resistant organisms. If all tested agents are "Resistant," synergistic mixtures of antifungal agents may be effective.

For Botanical sensitivity testing the active ingredients are tested and an example of the available source is shown.

Sensitivities are not performed on "Pathogens" or "Parasites" because they do not grow in culture under normal laboratory conditions. Standard protocols are generally used for treatment of pathogens and parasites.