

Ordering Physician:
Nutrition Geeks Limited
N G
Robert Robinson Ave
Oxford Science Park
Oxford OX4 4GP
GB

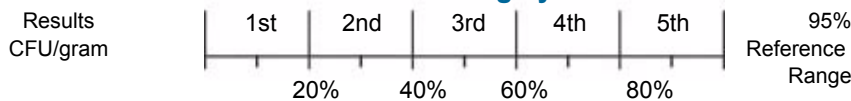
Accession Number: **A1207250003**
Reference Number:
Patient: Paul V Hughes
Age: 31 Sex: Male
Date of Birth: 09/16/1980
Date Collected: 7/22/12
Date Received: 7/25/12
Report Date: 8/8/12
Telephone: +44 1865 338045
Fax:
Reprinted:
Comment:

2100 Gastrointestinal Function Profile

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

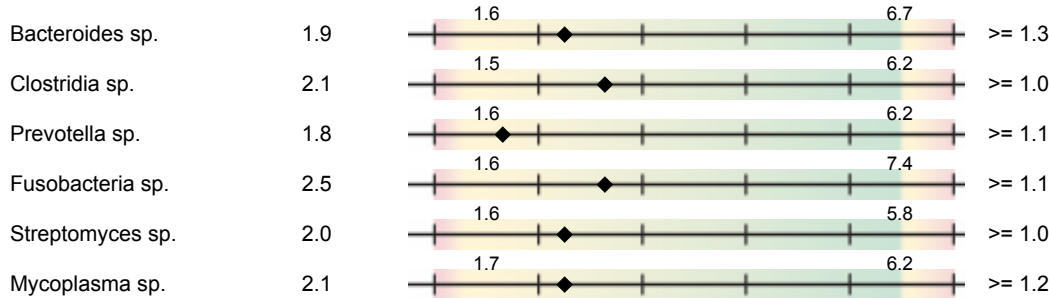
Percentile Ranking by Quintile

Consistency = Loose



Predominant Bacteria (E+007)

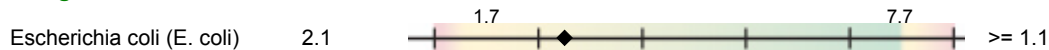
Obligate anaerobes



Facultative anaerobes



Obligate aerobes



Opportunistic Bacteria

No clinically significant amounts.

Units and Reference Ranges
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 E7 CFU/gram is read as 25 million colony forming units per gram of feces. The cutoff for significance of Opportunistic Bacteria has been set at 1.0E+ 005 (100,000). These are levels above which clinically significant growth may be present. Rather than reporting semi-quantitative +1 to +4 levels, the new methodology provides full quantitative analysis.

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 (sp.) within a genus, so the genera that are reported cover many species.

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.

Ordering Physician:
Nutrition Geeks Limited
N G
Robert Robinson Ave
Oxford Science Park
Oxford OX4 4GP
GB

Accession Number: **A1207250003**
Reference Number:
Patient: Paul V Hughes
Age: 31 Sex: Male
Date of Birth: 09/16/1980
Date Collected: 7/22/12
Date Received: 7/25/12
Report Date: 8/8/12
Telephone: +44 1865 338045
Fax:
Reprinted:
Comment:

2100 Gastrointestinal Function Profile

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

Pathogenic Bacteria

95% Reference
Range

Helicobacter pylori	<0.01	<=1.0E+005
E. coli 0157:H7	<0.01	<=1.0E+005
Clostridium difficile	<0.01	<=1.0E+005
Campylobacter sp.	<0.01	<=1.0E+005

Yeast/Fungi

Expected
Value
Neg

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

A taxonomy unavailable finding may indicate ingested mold. The higher the number, the greater the indication for treatment, particularly when accompanied by clinical symptoms.

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



Blastocystis hominis	Positive	Neg
Parasite present; taxonomy unavailable.	Positive	Neg

A taxonomy unavailable finding likely indicates an ingested protozoan and not a human parasite. It does not indicate treatment unless patient symptoms and other inflammatory markers are consistent with parasite infection.

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

Firmicutes	64		<= 80
Bacteroidetes	36		>= 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	Pos	gyrB, ParE	Neg
mecA	Pos	PBP1a, 2B	Neg
vanA, B, and C	Neg		

Drug Resistance Genes

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

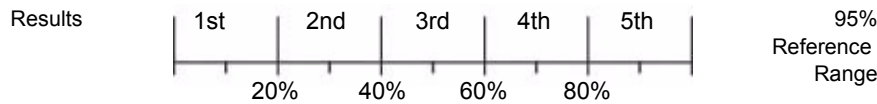
Ordering Physician:
Nutrition Geeks Limited
N G
Robert Robinson Ave
Oxford Science Park
Oxford OX4 4GP
GB

Accession Number: **A1207250003**
Reference Number:
Patient: Paul V Hughes
Age: 31 Sex: Male
Date of Birth: 09/16/1980
Date Collected: 7/22/12
Date Received: 7/25/12
Report Date: 8/8/12
Telephone: +44 1865 338045
Fax:
Reprinted:
Comment:

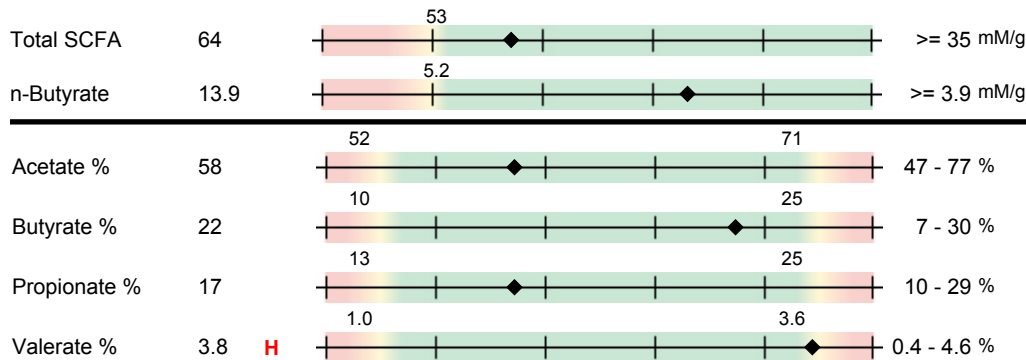
2100 Gastrointestinal Function Profile

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

Percentile Ranking by Quintile



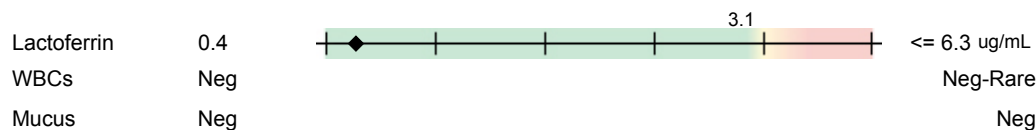
Beneficial SCFA



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.

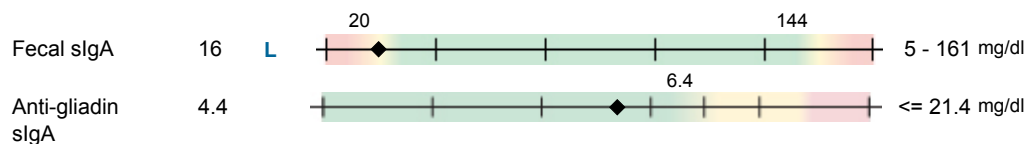
Inflammation



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 IgA indicates immune system reactions to the presence of antigens from bacteria, yeast or other microbes. Low IgA can result from stress or malnutrition. Anti-gliadin IgA is a screening marker for gluten sensitivity.

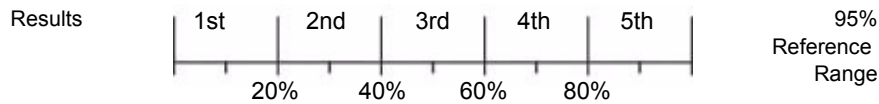
Ordering Physician:
Nutrition Geeks Limited
N G
Robert Robinson Ave
Oxford Science Park
Oxford OX4 4GP
GB

Accession Number: **A1207250003**
Reference Number:
Patient: Paul V Hughes
Age: 31 Sex: Male
Date of Birth: 09/16/1980
Date Collected: 7/22/12
Date Received: 7/25/12
Report Date: 8/8/12
Telephone: +44 1865 338045
Fax:
Reprinted:
Comment:

2100 Gastrointestinal Function Profile

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

Percentile Ranking by Quintile



Additional Tests

pH	6.3	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	>500	200	> 100 ug/g
Triglycerides	90	119	<= 181 mg/dL
Putrefactive SCFA	3.1	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	9.2	H	9.1	<= 15.1 mmol/L
Total Fat	11.9		12.9	<= 18.9 mmol/L
Cholesterol	65		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.