









## Gastrointestinal Microbiome

### Bacteriology (Culture)

*Lactobacillus spp.*

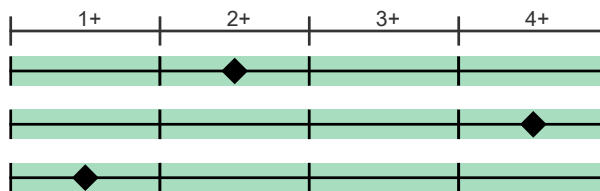
2+ NP

*Escherichia coli*

4+ NP

*Bifidobacterium*

1+ NP



### Additional Bacteria

*alpha haemolytic Streptococcus*

3+ NP

*Streptococcus agalactiae gp B*

4+ NP

*gamma haemolytic Streptococcus*

4+ NP

*Pseudomonas aeruginosa*

4+ PP

*Proteus mirabilis*

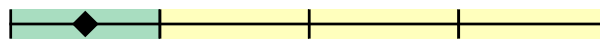
4+ PP



### Mycology (Culture)

*Candida albicans/dubliniensis*

1+ NP



\*\* Microbiology culture performed by Genova Diagnostics, Inc. 63 Zillicoa St., Asheville, NC 28801-0174  
A. L. Peace-Brewer, PhD, D(ABMLI), Lab Director - CLIA Lic. #34D0655571 - Medicare Lic. #34-8475

Human microflora is influenced by environmental factors and the competitive ecosystem of the organisms in the GI tract. Pathogenic significance should be based upon clinical symptoms.

### Additional Bacteria

**Non-Pathogen:** Organisms that fall under this category are those that constitute normal, commensal flora, or have not been recognized as etiological agents of disease.

**Potential Pathogen:** Organisms that fall under this category are considered potential or opportunistic pathogens when present in heavy growth.

**Pathogen:** The organisms that fall under this category have a well-recognized mechanism of pathogenicity in clinical literature and are considered significant regardless of the quantity that appears in the culture.

### Microbiology Legend

NG	NP	PP	P
No Growth	Non-Pathogen	Potential Pathogen	Pathogen



Methodology: Direct Microscopic Examination, EIA

## Parasitology

### Microscopic Exam Results\*\*

No Ova or Parasites seen

### Parasitology

Parasite Recovery: Literature suggests that >90% of enteric parasitic infections may be detected in a sample from a single stool collection. Increased sensitivity results from the collection of additional specimens on separate days.

### Parasitology EIA Tests:

	In Range	Out of Range
<i>Cryptosporidium</i> ♦	Negative	
<i>Giardia lamblia</i> ♦	Negative	
<i>Entamoeba histolytica</i> ♦	Negative	

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Tests were developed and their performance characteristics determined by Genova Diagnostics. Unless otherwise noted with ♦, the assays have not been cleared or approved by the U.S. Food and Drug Administration.



## Additional Results

	Result	Expected Value	
Fecal Occult Blood♦	Negative	Negative	<p><b>HpSA (Helicobacter pylori stool antigen)</b> Helicobacter pylori is a bacterium which causes peptic ulcer disease and plays a role in the development of gastric cancer. Direct stool testing of the antigen (HpSA) is highly accurate and is appropriate for diagnosis and follow-up of infection.</p> <p><b>Campylobacter</b> Campylobacter jejuni is the most frequent cause of bacterial-induced diarrhea. While transmission can occur via the fecal-oral route, infection is primarily associated with the ingestion of contaminated and poorly cooked foods of animal origin, notably, red meat and milk.</p> <p><b>Clostridium difficile</b> is an anaerobic, spore-forming gram-positive bacterium. After a disturbance of the gut flora (usually with antibiotics), colonization with Clostridium difficile can take place. Clostridium difficile infection is much more common than once thought.</p> <p><b>Shiga toxin E. coli</b> Shiga toxin-producing Escherichia coli (STEC) is a group of bacterial strains that have been identified as worldwide causes of serious human gastrointestinal disease. The subgroup enterohemorrhagic E. coli includes over 100 different serotypes, with O157:H7 being the most significant, as it occurs in over 80% of all cases. Contaminated food continues to be the principal vehicle for transmission; foods associated with outbreaks include alfalfa sprouts, fresh produce, beef, and unpasteurized juices.</p>
Consistency††	Not Given		
HpSA - <i>H. pylori</i>	Negative	Negative	
<i>Campylobacter</i> spp♦	Negative	Negative	
<i>Clostridium difficile</i> ♦**	Negative	Negative	
Shiga toxin <i>E. coli</i> ♦**	Negative	Negative	
Fecal Lactoferrin♦**	Positive	Negative	

### Lab Comments (if applicable)

††Results provided from patient input.

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## Bacteria Sensitivity

### Prescriptive Agents

<i>Pseudomonas aeruginosa</i>	R	I	S-DD	S	NI
Ciprofloxacin				S	
Tetracycline	R				
Trimethoprim/Sulfa	R				

### Natural Agents

<i>Pseudomonas aeruginosa</i>	LOW INHIBITION	HIGH INHIBITION
Berberine		
Oregano		
Plant Tannins		
Uva-Ursi		

**Prescriptive Agents:**

The R (Resistant) category implies isolate is not inhibited by obtainable levels of pharmaceutical agent.

The I (Intermediate) category includes isolates for which the minimum inhibition concentration (MIC) values usually approach obtainable pharmaceutical agent levels and for which response rates may be lower than for susceptible isolates.

The S-DD (Susceptible-Dose Dependent) category implies clinical efficacy when higher than normal dosage of a drug can be used and maximal concentration achieved.

The S (Susceptible) column implies that isolates are inhibited by the usually achievable concentrations of the pharmaceutical agent.

NI (No Interpretive guidelines established) category is used for organisms that currently do not have established guidelines for MIC interpretation.

Refer to published pharmaceutical guidelines for appropriate dosage therapy.

**Natural Agents:**

In this assay, inhibition is defined as the reduction level on organism growth as a direct result of inhibition by a substance. The level of inhibition is an indicator of how effective the substance was at limiting the growth of an organism in an in vitro environment. High inhibition indicates a greater ability by the substance to limit growth, while Low Inhibition a lesser ability to limit growth. The designated natural products should be considered investigational in nature and not be viewed as standard clinical treatment substances.



## Bacteria Sensitivity

### Prescriptive Agents

	R	I	S-DD	S	NI
<i>Proteus mirabilis</i>	R	I	S-DD	S	NI
Ampicillin				S	
Amox./Clavulanic Acid				S	
Cephalothin				S	
Ciprofloxacin				S	
Tetracycline	R				
Trimethoprim/Sulfa				S	

### Natural Agents

	LOW INHIBITION	HIGH INHIBITION
<i>Proteus mirabilis</i>		
Berberine		
Oregano		
Plant Tannins		
Uva-Ursi		

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