

Patient: **SAMPLE**
PATIENT

DOB:

Sex:

MRN:

2003 CDSA/P 2.0 - Stool

Methodology: MALDI-TOF MS, Automated and Manual Biochemical Methods, Vitek 2® System Microbial identification and Antibiotic susceptibility, Automated Chemistry, GC-FID, Microscopic Evaluation, ELISA, Ion Selective Electrode, Immunoassay, GCMS

Digestion/Absorption

Analyte	Result	Reference Range
1. Pancreatic Elastase 1 ♦		> 200 mcg/g
2. Products of Protein Breakdown (Total) (Valerate, Isobutyrate, Isovalerate)		1.8-9.9 micromol/g

Digestion/Absorption

Pancreatic Elastase 1 is a marker of exocrine pancreatic function. Products of Protein Breakdown reflect undigested protein reaching the colon.

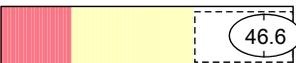
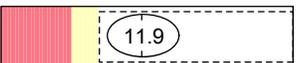
Gut Immunology

Analyte	Result	Reference Range
3. Eosinophil Protein X		<= 4.6 mcg/g
4. Calprotectin ♦		<=50 mcg/g

Gut Immunology

Eosinophil Protein X (EPX) reflects IgE-mediated inflammation. Fecal EPX elevations can be associated with several conditions including IBD, IgE-mediated food allergies, parasite or worm infections, and collagenous colitis. Elevated EPX requires further diagnostic testing to determine the cause. Calprotectin is a neutrophilic marker specific for inflammation in the gastrointestinal tract. It may be elevated with IBD, infection, neoplasia, and use of nonsteroidal anti-inflammatory drugs (NSAIDs). Fecal calprotectin is FDA-cleared to differentiate between IBD and IBS. Levels 50 mcg/g are considered normal; levels between 50-120 mcg/g are considered borderline and should be re-evaluated at 4-6 weeks; levels > 120 mcg/g are considered abnormal. The source of inflammation should be determined by colonoscopy or evaluation by a gastroenterologist.

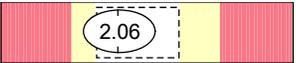
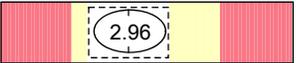
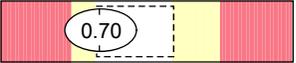
Metabolic

Analyte	Result	Reference Range
5. Beneficial SCFAs (Total*)		>= 23.3 micromol/g
6. n-Butyrate		>= 3.6 micromol/g
7. pH		6.1-7.9

Metabolic

GI metabolic biomarkers provide information regarding the health, function, and diversity of the commensal bacteria. They indicate how well the microbiome is performing the metabolic functions that are shared with the human host. Abnormalities may reflect underlying commensal bacterial imbalance.

Secondary Bile Acids

9. Lithocholic acid (LCA)		0.65-5.21 mg/g
10. Deoxycholic acid (DCA)		0.67-6.76 mg/g
11. LCA / DCA Ratio		0.39-2.07

*Total values equal the sum of all measurable parts.



Microbiology

Bacteriology

12. Beneficial Bacteria

Lactobacillus species	*NG
Escherichia coli	(4+)
Bifidobacterium	(3+)

13. Additional Bacteria

alpha haemolytic Streptococcus	NP	(3+)
Enterococcus faecalis	NP	(4+)
Citrobacter freundii	PP	(4+)
Klebsiella oxytoca	PP	(4+)

14. Mycology

*NG *NG

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

Microbiology

Human microflora is influenced by environmental factors and the competitive ecosystem of the organisms in the GI tract.

Beneficial bacteria

Lactobacillus, Escherichia coli, and Bifidobacterium are known to exert positive local and systemic effects in the microbiome. Lower levels of these beneficial bacteria have been associated with disease.

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

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

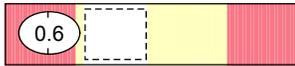
Mycology: Yeast present in culture may constitute part of the normal colonic flora. Pathogenic significance should be based upon clinical symptoms.



Additional Tests

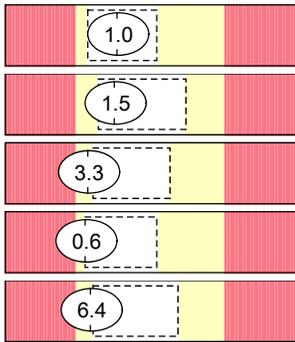
	Result	Expected Result
19. Occult Blood ◀	Negative	Negative

Analyte	Result	Reference Range
Chymotrypsin	0.6	1.0-32.0 U/g



Fecal Fat Distribution

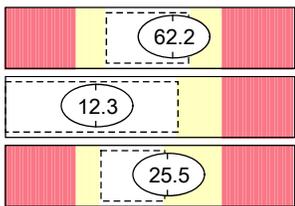
Triglycerides	1.0	0.3-2.8 mg/g
Cholesterol	1.5	0.4-4.8 mg/g
Long Chain Fatty Acids	3.3	1.2-29.1 mg/g
Phospholipids	0.6	0.2-6.9 mg/g
Fecal Fat (Total*)	6.4	3.2-38.6 mg/g



*Total values equal the sum of all measurable parts.

Metabolic Products

Acetate %	62.2	48.1-69.2 %
Propionate %	12.3	≤ 29.3 %
n-Butyrate %	25.5	11.8-33.3 %



Chymotrypsin

Chymotrypsin is a protein-digesting enzyme secreted by the exocrine portion of the pancreas. Decreased values may reflect pancreatic insufficiency, inadequate stomach acid for enzyme activation, or prolonged transit time. Since levels are influenced by transit time, an elevated level usually suggests rapid transit or excessive pancreatic enzyme supplementation.

Fecal Fats

The total fecal fats are calculated as the sum of fecal triglycerides, phospholipids, cholesterol, and long chain fatty acids (LCFAs). Elevated levels can be seen with high dietary fat intake. They may also reflect maldigestion from pancreatic or bile salt insufficiency, malabsorption, or both. Low fecal fat levels may indicate normal fat absorption or inadequate dietary fat intake.

Short Chain Fatty Acid Distribution

Beneficial (Total) short chain fatty acids (SCFAs) include acetate, propionate, and n-butyrate. They are the end products of anaerobic microbial fermentation of dietary fiber. Levels thus reflect the abundance of intestinal flora as well as the intake of dietary fiber and resistant starch. The SCFA Distribution reflects the relative proportions of the beneficial SCFAs providing an indirect measure of balance among the anaerobic organisms in the colon. These beneficial SCFAs help to maintain intestinal barrier function and regulate colonic absorption of water, provide fuel for colonocytes, and support commensal bacteria.

Occult blood

The occult blood test is a screening method for detecting fecal blood that may be indicative of gastrointestinal disease. The test is not specific for colorectal cancer or any other disease. Due diligence to assess the underlying cause is recommended.



Parasitology

Microscopic O&P Results

Microscopic O&P is capable of detecting all described gastrointestinal parasites. The organisms listed in the box represent those commonly found in microscopic stool analysis. Should an organism be detected that is not included in the list below, it will be reported in the Additional Results section. For an extensive reference of all potentially detectable organisms, please visit www.gdx.net/product/gi-effects-comprehensive-stool-test

Genus/species	Result
Nematodes - roundworms	
<i>Ancylostoma/Necator</i> (Hookworm)	Not Detected
<i>Ascaris lumbricoides</i>	Not Detected
<i>Capillaria philippinensis</i>	Not Detected
<i>Enterobius vermicularis</i>	Not Detected
<i>Strongyloides stercoralis</i>	Not Detected
<i>Trichuris trichiura</i>	Not Detected
Cestodes - tapeworms	
<i>Diphyllobothrium latum</i>	Not Detected
<i>Dipylidium caninum</i>	Not Detected
<i>Hymenolepis diminuta</i>	Not Detected
<i>Hymenolepis nana</i>	Not Detected
<i>Taenia</i> spp.	Not Detected
Trematodes - flukes	
<i>Clonorchis/Opisthorchis</i> spp.	Not Detected
<i>Fasciola</i> spp./ <i>Fasciolopsis buski</i>	Not Detected
<i>Heterophyes/Metagonimus</i>	Not Detected
<i>Paragonimus</i> spp.	Not Detected
<i>Schistosoma</i> spp.	Not Detected
Protozoa	
<i>Balantidium coli</i>	Not Detected
<i>Blastocystis</i> spp.	Not Detected
<i>Chilomastix mesnili</i>	Not Detected
<i>Cryptosporidium</i> spp.	Not Detected
<i>Cyclospora cayetanensis</i>	Not Detected
<i>Dientamoeba fragilis</i>	Many Detected
<i>Entamoeba coli</i>	Not Detected
<i>Entamoeba histolytica/dispar</i>	Not Detected
<i>Entamoeba hartmanii</i>	Not Detected
<i>Entamoeba polecki</i>	Not Detected
<i>Endolimax nana</i>	Not Detected
<i>Giardia</i>	Not Detected
<i>Iodamoeba buetschlii</i>	Not Detected
<i>Cystoisospora</i> spp.	Not Detected
<i>Trichomonads</i> (e.g. <i>Pentatrichomonas</i>)	Not Detected
Additional Findings	
White Blood Cells	Not Detected
Charcot-Leyden Crystals	Not Detected
Other Infectious Findings	



Parasitology EIA Tests

Methodology: EIA

	Result	Expected Result
Cryptosporidium ♦	Negative	Negative
Giardia lamblia ♦	Negative	Negative
Entamoeba histoytica ♦	Negative	Negative

Macroscopic/Direct Exam for Parasites

Methodology: Macroscopic Evaluation

No human parasite detected in sample.

Bacterial Sensitivity

Patient: **SAMPLE
PATIENT**

DOB:

Sex:

MRN:



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Asheville, NC 28801
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Prescriptive Agents					
CITROBACTER FREUNDII	R	I	S-DD*	S	NI*
Ampicillin	<input type="text" value="R"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Amox./Clavulanic Acid	<input type="text" value="R"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Cephalothin	<input type="text" value="R"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Ciprofloxacin	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="S"/>	<input type="text"/>
Tetracycline	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="S"/>	<input type="text"/>
Trimethoprim/Sulfa	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="S"/>	<input type="text"/>

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.

Bacterial Sensitivity

Patient: **SAMPLE
PATIENT**

DOB:

Sex:

MRN:



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Asheville, NC 28801
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Prescriptive Agents					
KLEBSIELLA OXYTOCA	R	I	S-DD*	S	NI*
Ampicillin	<input type="text" value="R"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Amox./Clavulanic Acid	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="S"/>	<input type="text"/>
Cephalothin	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="S"/>	<input type="text"/>
Ciprofloxacin	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="S"/>	<input type="text"/>
Tetracycline	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="S"/>	<input type="text"/>
Trimethoprim/Sulfa	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="S"/>	<input type="text"/>

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