

Patient: Ima Sample

Collected: 08/02/2022

DOB: 07/11/1981

Gender: M

Accession: 00000000-0001

Received: 08/3/2022

Completed: 8/17/2022

Ordered by: Diane Farhi, MD

DNA STOOL ANALYSIS BY QUANTITATIVE PCR

YOUR PERSONALIZED REPORT

PATHOGENS

Includes pathogens (bacterial, parasitic and viral) commonly known to cause gastroenteritis. Note that not all individuals with positive findings will present with symptoms. Many factors, including the health of the individual (such as immune health, digestive function, and microbiome balance), the transient nature of most pathogens, and the presence and expression of virulence factors, all contribute to pathogen virulence and individual symptoms.

BACTERIAL PATHOGENS	Result	Reference
<i>Campylobacter</i>	< dl	< 1.00e3
<i>C. difficile</i> Toxin A	1.21e5 High ↑	< 1.00e3
<i>C. difficile</i> Toxin B	2.27e5 High ↑	< 1.00e3
Enterohemorrhagic <i>E. coli</i>	< dl	< 1.00e3
<i>E. coli</i> O157	< dl	< 1.00e3
Enteroinvasive <i>E. coli</i> / <i>Shigella</i>	< dl	< 1.00e2
Enterotoxigenic <i>E. coli</i> LT/ST	< dl	< 1.00e3
Shiga-like Toxin <i>E. coli</i> stx1	< dl	< 1.00e3
Shiga-like Toxin <i>E. coli</i> stx2	< dl	< 1.00e3
<i>Salmonella</i>	< dl	< 1.00e4
<i>Vibrio cholerae</i>	< dl	< 1.00e5
<i>Yersinia enterocolitica</i>	4.46e3	< 1.00e5
PARASITIC PATHOGENS		
<i>Cryptosporidium</i>	< dl	< 1.00e6
<i>Entamoeba histolytica</i>	< dl	< 1.00e4
<i>Giardia</i>	< dl	< 5.00e3
VIRAL PATHOGENS		
Adenovirus 40/41	< dl	< 1.00e10
Norovirus GI/II	< dl	< 1.00e7

**KEY:** Results are reported as genome equivalents per gram of stool, which is a standard method for estimating the number of microbes measured per gram of stool, based on qPCR analysis of DNA samples.

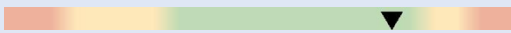

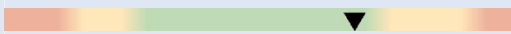

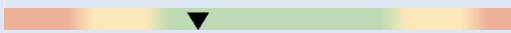

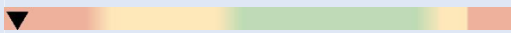

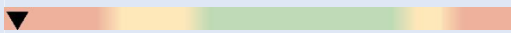

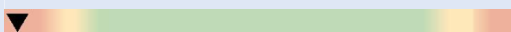

Results are expressed in standard scientific notation. For example, a reported result of 3.5e7 is equivalent to 3.5 x 10<sup>7</sup> microbes per gram, which equals 35,000,000 (35 million) microbes per gram of stool.

< dl represents results below detectable limit.

## HELICOBACTER PYLORI

H. PYLORI & VIRULENCE FACTORS	Result	Reference
<b><i>Helicobacter pylori</i></b>	<b>2.90e3 High ↑</b>	< 1.00e3
Virulence Factor, babA	<b>Positive</b>	Negative
Virulence Factor, cagA	<b>Positive</b>	Negative
Virulence Factor, dupA	Negative	Negative
Virulence Factor, iceA	Negative	Negative
Virulence Factor, oipA	Negative	Negative
Virulence Factor, vacA	Negative	Negative
Virulence Factor, virB	<b>Positive</b>	Negative
Virulence Factor, virD	<b>Positive</b>	Negative

## COMMENSAL/KEYSTONE BACTERIA

COMMENSAL BACTERIA	Result	Reference
<i>Bacteroides fragilis</i>	8.98e10 	1.6e9 - 2.5e11
<i>Bifidobacterium</i> spp.	1.89e10 	> 6.7e7
<i>Enterococcus</i> spp.	2.45e7 	1.9e5 - 2.0e8
<i>Escherichia</i> spp.	2.14e8 	3.7e6 - 3.8e9
<i>Lactobacillus</i> spp.	6.55e6 	8.6e5 - 6.2e8
<i>Enterobacter</i> spp.	2.07e6 	1.0e6 - 5.0e7
<i>Akkermansia muciniphila</i>	<b>&lt;dl L</b> 	1.0e1 - 8.2e6
<i>Faecalibacterium prausnitzii</i>	5.66e5 	1.0e3 - 5.0e8
<i>Roseburia</i> spp.	<b>7.91e5 L</b> 	5.0e7 - 2.0e10
<b>BACTERIAL PHYLA</b>		
<i>Bacteroidetes</i>	1.21e12 	8.6e11 - 3.3e12
<i>Firmicutes</i>	<b>4.70e10 L</b> 	5.7e10 - 3.0e11
<i>Firmicutes:Bacteroidetes</i> Ratio	0.04 	< 1.0

## OPPORTUNISTIC/OVERGROWTH MICROBES

### DYSBIOTIC & OVERGROWTH BACTERIA

	Result	Reference
<i>Bacillus</i> spp.	2.56e5	< 1.76e6
<i>Enterococcus faecalis</i>	1.81e3	< 1.00e4
<i>Enterococcus faecium</i>	< dl	< 1.00e4
<i>Morganella</i> spp.	< dl	< 1.00e3
<i>Pseudomonas</i> spp.	< dl	< 1.00e4
<i>Pseudomonas aeruginosa</i>	< dl	< 5.00e2
<i>Staphylococcus</i> spp.	< dl	< 1.00e4
<i>Staphylococcus aureus</i>	3.83e2	< 5.00e2
<i>Streptococcus</i> spp.	< dl	< 1.00e3

### COMMENSAL OVERGROWTH MICROBES

<i>Desulfovibrio</i> spp.	1.84e3	< 7.98e8
Methanobacteriaceae (family)	1.24e8	< 3.38e8

### INFLAMMATORY & AUTOIMMUNE-RELATED BACTERIA

<i>Citrobacter</i> spp.	< dl	< 5.00e6
<i>Citrobacter freundii</i>	< dl	< 5.00e5
<i>Klebsiella</i> spp.	< dl	< 5.00e3
<i>Klebsiella pneumoniae</i>	< dl	< 5.00e4
<i>M. avium</i> subsp. <i>paratuberculosis</i>	< dl	< 5.00e3
<i>Proteus</i> spp.	< dl	< 5.00e4
<i>Proteus mirabilis</i>	< dl	< 1.00e3

### COMMENSAL INFLAMMATORY & AUTOIMMUNE-RELATED BACTERIA

<i>Enterobacter</i> spp.	2.07e6	< 5.00e7
<i>Escherichia</i> spp.	2.14e8	< 3.80e9
<i>Fusobacterium</i> spp.	2.56e7	< 1.00e8
<i>Prevotella</i> spp.	3.86e7	< 1.00e8

## FUNGI/YEAST

### FUNGI/YEAST

	Result	Reference
<i>Candida</i> spp.	<b>4.53e4</b> <span style="color: red;">High ↑</span>	< 5.00e3
<i>Candida albicans</i>	< dl	< 5.00e2
<i>Geotrichum</i> spp.	< dl	< 3.00e2
<i>Microsporidium</i> spp.	< dl	< 5.00e3
<i>Rhodotorula</i> spp.	< dl	< 1.00e3

## VIRUSES

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	Result	Reference
Cytomegalovirus	< dl	< 1.00e5
Epstein-Barr Virus	< dl	< 1.00e7

### PARASITES

PROTOZOA	Result	Reference
<i>Blastocystis hominis</i>	< dl	< 2.00e3
<i>Chilomastix mesnili</i>	< dl	< 1.00e5
<i>Cyclospora</i> spp.	< dl	< 5.00e4
<i>Dientamoeba fragilis</i>	< dl	< 1.00e5
<i>Endolimax nana</i>	< dl	< 1.00e4
<i>Entamoeba coli</i>	< dl	< 5.00e6
<i>Pentatrichomonas hominis</i>	< dl	< 1.00e2
WORMS		
<i>Ancylostoma duodenale</i>	Not Detected	Not Detected
<i>Ascaris lumbricoides</i>	Not Detected	Not Detected
<i>Necator americanus</i>	Not Detected	Not Detected
<i>Trichuris trichiura</i>	Not Detected	Not Detected
<i>Taenia</i> spp.	Not Detected	Not Detected

### INTESTINAL HEALTH MARKERS

DIGESTION	Result	Reference
Steatocrit	<dl 	< 15 %
Elastase-1	>750 	> 200 ug/g
GI MARKERS		
β-Glucuronidase	2584 H 	< 2486 U/mL
Occult Blood - FIT	0 	< 10 ug/g
IMMUNE RESPONSE		
Secretory IgA	552 	510 - 2010 ug/g
Anti-gliadin IgA	157 	< 175 U/g
Eosinophil Activation Protein (EDN, EPX)	1.40 	< 2.34 ug/g
INFLAMMATION		
Calprotectin	116 	< 173 ug/g
ADD-ON TESTS		
Zonulin	177.0 H 	< 175 ng/g

### H. PYLORI ANTIBIOTIC RESISTANCE GENES

	Result	Reference
<b>Amoxicillin</b>	<b>Positive</b>	<b>Negative</b>
<i>Genes associated with amoxicillin resistance</i>		
PBP1A S414R	<b>Present</b>	
PBP1A T556S	<b>Absent</b>	
PBP1A N562Y	<b>Absent</b>	

	Result	Reference
<b>Clarithromycin</b>	<b>Positive</b>	<b>Negative</b>
<i>Genes associated with clarithromycin resistance</i>		
A2142C	<b>Absent</b>	
A2142G	<b>Absent</b>	
A2143G	<b>Present</b>	

	Result	Reference
<b>Fluoroquinolones</b>	<b>Negative</b>	<b>Negative</b>
<i>Genes associated with fluoroquinolone resistance</i>		
gyrA N87K	<b>Absent</b>	
gyrA D91N	<b>Absent</b>	
gyrA D91G	<b>Absent</b>	
gyrB S479N	<b>Absent</b>	
gyrB R484K	<b>Absent</b>	

	Result	Reference
<b>Tetracycline</b>	<b>Negative</b>	<b>Negative</b>
<i>Genes associated with tetracycline resistance</i>		
A926G	<b>Absent</b>	
AGA926-928TTC	<b>Absent</b>	