Patient name: Lindsey Parsons DOB: July 18, 1969 Sex: Female Kit ID: GEQ343 Physician: Dr Taylor Soderborg Physician NPI: 1518543321 PRO GUT HEALTH TEST 6104 Old Fredericksburg RD #91622

Austin, TX 78749

Sequence Sample Received: April 3, 2024 Sequence Results Ready: April 18, 2024

Results Summary

Tiny Health Comprehensive Metagenomics Stool Profiling & Stool Chemistry Markers

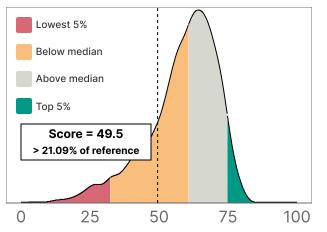
Your sample		Great results	25/107
at a glance		Normal results	69/107
		Can improve	6/107
		Need support	7/107
	Gut Score	Metrics	Clinical indication examples
Beneficial microbes	0	 Metabolic Health Anti-inflammatory Markers Beneficial Bifidobacterium Common Probiotic Species 	 Prebiotics / probiotics support Review Akkemansia promoting supplements Track and diversify fiber intake Increase fermented foods Move and stay physically active
Disruptive microbes	0	 Parasites and Infection Opportunistic Pathogens Potential Fungal Overgrowth Methane Producers Antibiotic Resistance Signature 	 Potential anti-microbial support (e.g. herbs) Prebiotics / probiotics support Close monitoring post-antibiotics to track recovery Nutritional support and therapeutic diet (eg AIP, candida diet, etc) Review symptoms/conditions Consider additional testing (e.g. SIBO, OAT, nutritional labs etc)
Gut inflammation markers	0	 Host DNA Hexa-LPS index Mucus degradation index Hydrogen sulfide index Occult Blood Calprotectin Secretory IgA Lactoferrin Lysozyme 	 Modulate stress levels Lifestyle changes (eg exercise, sleep) Nutritional support and therapeutic diet (eg AIP, candida diet, etc) Support GI motility (eg hydration, pysllium, acacia, pectin, HMOs etc) GI barrier support (e.g. tumeric, quercetin, L-glutamine) Soothe mucosal lining (i.e. SBI/ colostrum, marshmallow) Consider additional testing (e.g. SIBO, OAT, nutritional labs etc)

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Short-chain fatty acids	0	 Butyrate-Producing Capacity Acetate-Producing Capacity Propionate-Producing Capacity Beta-glucuronidase Total SCFA Concentration Acetate Percent Butyrate Concentration Valerate Percent Butyrate Percent Propionate Percent Propionate Percent Propionate Percent 	 Track and diversify fiber intake Prebiotics / probiotics / postbiotics support Increase fermented foods Supportive nutraceuticals (butyrate supplements, spore-based probiotics) Detoxification supports (calcium d- glucarate, broccoli sprouts, DIM)
Digestion & absorption markers	0	 Fiber Digestion Complex Sugar Digestion Vitamin Production Protein Breakdown Histamine-producing Species Consistency Fecal Fats Color Muscle fibers Vegetable fibers Carbohydrates pH Pancreatic Elastase 	 Consider balanced, nutrient-dense whole foods diet Track and diversify fiber intake Gastric acid optimization (e.g. Betaine HCL, Apple Cider Vinegar) Digestive enhancement (e.g. digestive bitters, digestive enzymes, bile salts) Mindful eating habits (e.g. chew well, timing of meals, etc) Support GI motility (eg hydration, pysllium, acacia, pectin, HMOs etc)
Balance and robustness	0	 Microbiome Diversity Major Bacterial Phyla Common Microbiome Members Gut Ratio 	 Track and diversify fiber intake Increase fermented foods Use non-toxic cleaners / reduce antimicrobials

Population comparison chart



The population score is a reflection of the overall health of your gut microbiome compared to others in a similar age range. This score is determined by assessing various aspects of your gut health, such as the abundance of beneficial bacteria, and comparing these assessments to what is typically observed in a broad range of individuals.

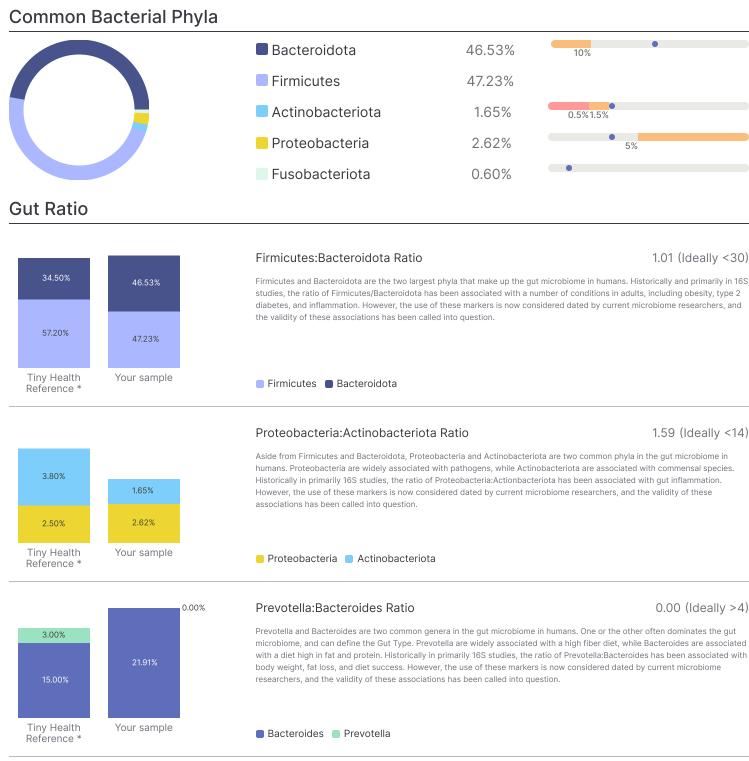
Each aspect of your gut health receives an evaluation, such as whether it's in great condition, normal, could use some improvement, or needs more significant support. These evaluations are then combined in a way that allows us to compare your gut health to that of a reference population—a diverse group of individuals who have shared their gut microbiome data for scientific comparison.

Your population score ranges from 0 to 100, where a score closer to 100 suggests that your gut microbiome is in excellent condition relative to the reference population, and a score closer to 0 indicates that there are more areas for improvement. This scoring system helps us understand how your gut health stacks up against a wide range of individuals.

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Major Microbial Members & Ratios



*Tiny Health Reference: This represents a cohort that is free of any acute or chronic conditions, so they may be considered a "healthy" cohort

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41.35%

2.23%

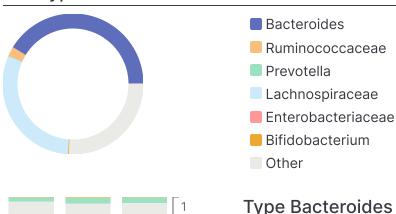
0.03%

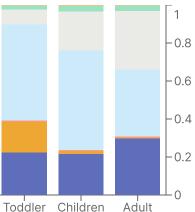
30.35% 0.00%

0.17%

25.86%







These bars represent the proportion of the different gut types in our database for different age ranges.

The gut type of a sample is determined by the dominant type of microbe in that sample.

Type Bacteroides

The *Bacteroides* gut type is a common type for all ages. As it turns out, this is the most common gut type for people in developed countries. It's often seen in those whose diet is high in animal protein and fats, with lower consumption of plant-based foods.

When compared to the other gut types, the *Bacteroides* gut type has the highest potential to produce vitamin B12 and biotin.

Studies have shown that gut types respond differently to dietary interventions. For example, while foods high in fiber are beneficial for all gut types, if trying to lose weight, the *Bacteroides* gut type may not benefit much from a fiber-rich diet.

Compared to the *Prevotella* gut type, a good thing about the *Bacteroides* gut type is that it tends to have higher levels of *Bifidobacterium* species. In fact, babies with a gut type dominated by *Bifidobacterium* often transition to a *Bacteroides* gut type during toddlerhood.

Compared to other gut types, a Bacteroides gut type seems to benefit the most from eating chili peppers, whose content of capsaicin has beneficial effects on the gut microbiome and overall health.

Different gut types also respond differently to supplements. One study found that when people with a *Bacteroides* gut type were given probiotics, there was an improvement in glucose metabolism. Instead, people with a *Prevotella* gut type saw improvement in triglyceride metabolism.

Researchers have identified two subtypes in the Bacteroides gut type, named Bact1 and Bact2. The Bact2 subtype has three main characteristics in terms of microbiome composition:

- Top species include Bacteroides fragilis, Phocaeicola vulgatus, and Parabacteroides distasonis
- Has a low diversity
- Has very low levels of Faecalibacterium prausnitzii

The Bact2 subtype is more often seen in people with obesity, insulin resistance, or inflammatory conditions such as inflammatory bowel disease and multiple sclerosis.

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Detailed Pro Gut Health Test Results

Beneficial microbes	Beneficial Bifidobacterium		
microbes	A Bifidobacterium	0.17%	0.5%1.5% 6% 10%
	Bifidobacterium longum	0.11%	
	Bifidobacterium infantis	0.05%	
	HMO-digesting species	0.16%	0.5% 1.5%
	Metabolic Health		
	Akkermansia	0.06%	0.05%0.5% 6.5%7.5%
	Anti-inflammatory Markers		
	🔺 Faecalibacterium	1.12%	1.8%2.2% 10%
	Faecalibacterium prausnitzii_C	0.11%	
	Faecalibacterium prausnitzii_D	0.37%	
	Faecalibacterium prausnitzii_G	0.36%	
	Faecalibacterium sp900539885	0.10%	
	Faecalibacterium sp900539945	0.09%	
	Common Probiotic Species		
	Bifidobacterium	0.17%	
	Lactobacillaceae	0.06%	
	Bifidobacterium infantis	0.05%	
	Bifidobacterium longum	0.11%	

Disruptive microbes	Opportunistic Pathogens		
	Enterobacteriaceae	0.00%	• 5.5%6.5%
	Klebsiella	0.00%	0.85%0.95%
	Klebsiella pneumoniae	0.00%	0.55%0.65%
	Klebsiella oxytoca	0.00%	0.05% 0.1%
	Salmonella enterica	0.00%	0.15%0.25%

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Disruptive microbes	Escherichia coli	0.00%	2.5%3.5%
merobes	Escherichia flexneri	0.00%	0.5%1.5%
	Streptococcus	0.12%	0.5%1.5%
	Streptococcus anginosus	0.11%	
	Streptococcus agalactiae (GBS)	0.00%	0.05%
	Staphylococcus	0.00%	0.15%0.25%
	Pseudomonas aeruginosa	0.00%	0.05% 0.1%
	Haemophilus influenzae	0.00%	0.05% 0.1%
	Haemophilus parainfluenzae	0.00%	0.05% 0.1%
	Enterococcus faecium	0.00%	0.45%0.55%
	Enterococcus faecalis	0.00%	0.15%0.25%
	Clostridioides difficile	0.05%	0.05% 0.1%
	Acinetobacter baumannii	0.00%	0.05%
	Campylobacter	0.00%	0.05% 0.1%
	Helicobacter pylori	0.00%	0.05%
	Potential Fungal Overgrowth		
	Candida	0.00%	0.05% 0.1%
	Aspergillus	0.00%	0.05%
	Cryptococcus	0.00%	0.05%
	Saccharomyces	0.00%	0.5%
	Rhodotorula	0.00%	0.05%
	Saprochaete	0.00%	0.05%
	Malassezia	0.00%	0.05%
	Microsporum	0.00%	0.05%
	Trichophyton	0.00%	0.05%

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Disruptive	Parasites and Infection			
microbes	Blastocystis	0.00%	0.08%0.12%	
	Cryptosporidium	0.00%	0.05%	
	Entamoeba histolytica	0.00%	0.05%	
	Entamoeba dispar	0.00%	0.05%	
	Giardia	0.00%	0.05%	
	Yersinia enterocolitica	0.00%	0.05%	
	 Vibrio 	0.00%	0.05%	
	Vibrio cholerae	0.00%	0.05%	
	Cyclospora cayetanensis	0.00%		
_	Antibiotic Resistance Signature			
	Abundance index	0.00	0.1 0.250.35	
	Richness index	0.02	0.1 0.280.32	
-	Methane Producers			
	Methanobrevibacter smithii	0.00%	0.05% 0.45% 0.55%	
Gut	Hexa-LPS index			
nflammation narkers	Hexa-LPS index	9.57	8 11.8 12.2	
	Mucus degradation index			
	Mucus degradation index	11.50	8 11.8 12.2	

narkers	Hexa-LPS index	9.57	8 11.8 12.2
	Mucus degradation index		
	Mucus degradation index	11.50	8 11.8 12.2
	Hydrogen sulfide index		
	Hydrogen sulfide index	10.36	8 11.8 12.2
	Host DNA		
	Host DNA	3.74%	10%
	Secretory IgA		
	Secretory IgA	43.70 mg/dL	30 275

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Short-chain fatty acids

Butyrate-Producing Capacity		
 Butyrate 	970.07 rpkm	80010001310
Propionate-Producing Capacity		
Propionate	501.85 rpkm	500 600 781
Acetate-Producing Capacity		
 Acetate 	678.54 rpkm	620 8201033
Butyrate Concentration		
Butyrate Concentration	0.85 mg/mL	0.8 4
Butyrate Percent		
Butyrate Percent	19.70	11 32
Propionate Percent		
< Propionate Percent	28.50	11 32
Acetate Percent		
Acetate Percent	46.90	50 72
Valerate Percent		
Valerate Percent	4.90	0.8 5
Total SCFA Concentration		
A Total SCFA Concentration	4.30 mg/mL	5 16

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Short-chain	Beta-glucuronidase				
fatty acids	▲ Beta-glucuronidase	9788.20 U/h*g	4000 9400		
Digestion &	Muscle fibers				
absorption markers	Muscle fibers	None			
	Vegetable fibers				
	Vegetable fibers	Rare			
	Fiber Digestion				
	🥏 Cellulose	1246.48 rpkm	9001100		
	A Resistant starch	2466.83 rpkm	25502750		
	S Chitin	658.27 rpkm	448		
	Pectin	586.89 rpkm	230 270		
	Complex Sugar Digestion				
	Fructooligosaccharides	618.89 rpkm	400 600		
	Galactooligosaccharides	1069.94 rpkm	9001100		
	🔮 Xylooligosaccharides	349.00 rpkm	150 250		
	🔺 Isomaltooligosaccharides	0.00 rpkm	9 11		
	Protein Breakdown				
	Protein breakdown	450.42 rpkm	444 600 700		
	Color				
	Color	Brown			
	Consistency				
	Consistency	Soft			
	Pancreatic Elastase				
	Pancreatic Elastase	285.00 ug/g	200		
	Fecal Fats				
	Fecal Fats	Few			

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Digestion &	Carbohydrates			
absorption markers	Carbohydrates	Negative		
	рН			
	PH 🛇	6.50	5.8 7	
	Vitamin Production			
	🔮 Vitamin B2	977.05 rpkm	938	
	🔮 Vitamin B7	571.67 rpkm	351	
	🥑 Vitamin B9	295.66 rpkm	263	
	🕑 Vitamin B12	1939.36 rpkm	1524	
	🕑 Vitamin K	407.52 rpkm	183	
	Histamine-producing Species			
	Histamine-producing species	0.00%	0.05%0.5%1.5%	

Balance and
robustness

lance and bustness	Major Bacterial Phyla					
	Bacteroidota	46.53%	10%			
	Firmicutes	47.23%				
	Actinobacteriota	1.65%	0.5%1.5%			
	Proteobacteria	2.62%	• 5%			
	Fusobacteriota	0.60%				
	Microbiome Diversity					
	Shannon diversity	5.81	5.1 5.5 6.3			
	Common Microbiome Members					
	Bacteroides	21.91%				
	Bacteroides fragilis	0.19%				
	Prevotella	0.00%	0.5% 40%			
	Ruminococcus	3.49%	4% 15%			

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Balance and	Ruminococcus gnavus	1.52%	
robustness	🤣 Blautia	12.95%	1%
	🤗 Roseburia	0.57%	0.1%
	Phocaeicola dorei	4.36%	
	Gut Ratio		
	Firmicutes / Bacteroidota ratio	1.01	• 30
	Proteobacteria / Actinobacteriota ratio	1.59	12
	Prevotella / Bacteroides ratio	0.00	•

Your Microbiome Breakdown

This shows what was detected in the sample, but is not meant to provide an evaluation if your levels are optimal.

		• · · • · · · · · ·	
Beneficial 40% 🤇	Variable 42%	Unfriendly 0%	5 📃 Unknown 18%

Top 20 species

Metric	Result	Description
 Bacteroides stercoris 	12.09%	<i>B. stercoris</i> appears to be an unfriendly <i>Bacteroides</i> species. Studies suggest it may have something to do with type 1 diabetes and Crohn's disease.
		Outside of the gut, it can cause infection.
Phocaeicola vulgatus	10.88%	<i>P. vulgatus</i> is one of the most abundant bacteria in the human gut, detected very early in babies.
		People with cardiovascular disease have low levels of <i>P. vulgatus</i> which could indicate it is a beneficial bacterium.
		But women with polycystic ovary syndrome have high levels of it. And <i>P. vulgatus</i> has been associated with Crohn's disease and ulcerative colitis, although the effects depend on the strain. Also, when in high numbers throughout the first two years of life, it may contribute to the development of Type 1 diabetes.
 Phocaeicola dorei 	4.36%	<i>P. dorei</i> are very common in the gut of adults and babies. Some studies have found that in children with a family history of type 1 diabetes (T1D), high levels of <i>P. dorei</i> may be associated with T1D development.
		In babies, it's been found that the risk of developing T1D increases when <i>P. dorei</i> levels are high, <i>Bifidobacterium</i> are low, and <i>Enterobacteriaceae</i> are absent to train the baby's immune system. When present at levels higher than ideal, this will be flagged in the Balance and Robustness category of your results.

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 Blautia_A wexlerae 	4.01%	<i>B. wexlerae</i> is one of the most abundant <i>Blautia</i> species in humans. Along with a healthy diet high in fiber, it may contribute to healthy metabolism.
		High levels of <i>B. wexlerae</i> may protect against obesity, insulin resistance, eczema and inflammation.
Fusicatenibacter saccharivorans	3.23%	<i>F. saccharivorans</i> is a beneficial bacterium that produces short-chain fatty acids and promotes the production of anti-inflammatory molecules.
		People with active ulcerative colitis or rheumatoid arthritis have low levels of <i>F. saccharivorans</i> .
 Bacteroides xylanisolvens 	2.98%	<i>B. xylanisolvens</i> is very good at digesting soluble fiber from fruits and insoluble fiber from cereals. It contributes to gut health by transforming fiber into beneficial short-chain fatty acids.
		We don't know for sure, but it may be protective against certain diseases. People with atherosclerosis and children with type 1 diabetes have low levels of <i>B. xylanisolvens</i> in their gut.
 Parabacteroides merdae 	1.97%	<i>Parabacteroides merdae</i> , previously known as <i>Bacteroides merdae</i> are a variable species found in the human gut. This means this species can either disrupt your health or benefit it.
		Some studies have associated high numbers of <i>P. merdae</i> to a variety of health conditions, such as:
		Ulcerative colitis
		Cardiovascular disease
		Parkinson's disease
		On the good side, <i>P. merdae</i> has been associated with longevity.
		Luckily, having <i>P. merdae</i> in your gut isn't much of a concern unless its populations grow out of balance.
• Agathobacter rectalis	1.85%	<i>A. rectalis</i> is a beneficial bacterium found in the gut of many people. It's a butyrate producer whose levels increase when babies start eating solid foods.
		According to one study, very low levels of <i>A. rectalis</i> may contribute to inflammatory bowel syndrome. But too much of it may be associated with obesity.
		So better to keep <i>A. rectalis</i> at that sweet spot. If you need to give it a boost, you can add more fiber to your diet.
Ruminococcus_A sp003011855	1.84%	<i>Ruminococcus_A sp003011855</i> is also known as <i>Oliverpabstia intestinalis.</i> This is a newly described species so we don't know much about it.
		We can tell you that these bugs belong to the <i>Lachnospiraceae</i> family. Bacteria from this family help you digest carbohydrates and produce short-chain fatty acids (SCFAs) that protect against inflammation.

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 Bacteroides caccae 	1.80%	<i>B. caccae</i> is a variable bacterium in your gut microbiome. Laboratory experiments suggest that it contributes to gut health by protecting the gut barrier from unfriendly bacteria.
		However, if your <i>B. caccae</i> levels are too high, you may get into trouble. High amounts of <i>B. caccae</i> may contribute to inflammation and development of:
		Type 2 diabetes
		Inflammatory bowel disease
		• Obesity
		Rarely, it can cause serious blood infections.
		Luckily, you can keep your levels of <i>B. caccae</i> in the sweet spot by eating
		a healthy anti-inflammatory diet.
 Blautia_A wexlerae_A 	1.72%	<i>B. wexlerae</i> is one of the most abundant <i>Blautia</i> species in humans. Along with a healthy diet high in fiber, it may contribute to healthy metabolism.
		High levels of <i>B. wexlerae</i> may protect against obesity, insulin resistance, eczema and inflammation.
 Parabacteroides distasonis 	1.62%	<i>P. distasonis</i> is a variable species found in the gut microbiome of many healthy people. The species can disrupt your health or benefit it.
		Scientists have linked it to a variety of health conditions, when in high counts and outside of the gut, including:
		Inflammatory bowel disease
		Cardiovascular disease
		Autoimmune disease
		Diabetes and gestational diabetes
		Abscesses
		However, the species may play a protective role against colorectal cancer and obesity.
		Luckily, having <i>P. distasonis</i> in your gut isn't much of a concern unless its populations grow out of balance.
Ruminococcus_B gnavus	1.52%	<i>R. gnavus</i> can be part of a healthy gut microbiome. But when its numbers go up, it may become a problem. Too much <i>R. gnavus</i> can break down the protective gut mucus layer and induce strong inflammation.
		In adults, high levels of <i>R. gnavus</i> have been associated with:
		Crohn's disease
		Ulcerative colitis
		• Type 1 and type 2 diabetes
		Celiac disease
		In babies, high levels of <i>R. gnavus</i> have been associated with the atopic march and allergic diseases. Research shows that the probiotic species <i>Bifidobacterium infantis</i> can help decrease the levels of <i>R. gnavus</i> .
		However, <i>R. gnavus</i> are variable bugs because low levels seem to offer protection against eczema symptoms in babies. As it turns out, some <i>R. gnavus</i> strains seem to be friendly and don't cause high inflammation.
• Blautia sp003287895	1.39%	This is a newly detected species of <i>Blautia</i> so we don't know much about it. Like most <i>Blautia</i> , it probably thrives on plant-based foods and provides benefits to your gut.

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Sutterella wadsworthensis_A	1.35%	<i>S. wadsworthensis</i> doesn't seem to induce inflammation on its own, but it may negatively affect the antibacterial immune response in the gut.
		For people with ulcerative colitis, high levels of <i>S. wadsworthensis</i> predict poor outcomes after surgery or after fecal microbiota transplantation.
		However, people with inflammatory bowel syndrome have lower levels of <i>S. wadsworthensis</i> than healthy people. So the role of this bacterium in inflammatory gut diseases is not totally clear.
 Anaerostipes hadrus_B 	1.30%	<i>A. hadrus</i> is a beneficial bacterium in your gut that produces butyrate. It has been associated with a healthy weight and with high cholesterol levels, but of the good one (HDL).
		You can increase <i>A. hadrus</i> levels by eating inulin. However, if you have an inflammatory bowel disease, you may want to keep its levels on the low side.
 Bacteroides uniformis 	1.28%	Lots of healthy people have <i>B. uniformis</i> in their gut. This bacterium is very good at digesting a wide range of plant-based foods.
		It has anti-inflammatory properties that keep your gut healthy. It may also have a role in reducing binge eating and anxiety.
		Breastfeeding is a good way to boost <i>B. uniformis</i> levels in babies.
 KLE1615 sp900066985 	1.23%	Scientists don't know enough about this species to classify it or tell you anything about it. This shows how new microbiome research really is! We will keep updating our information as research advances.
 Blautia_A massiliensis 	1.17%	<i>B. massiliensis</i> was first isolated from human feces in 2017. Although most <i>Blautia</i> species are known to contribute to a healthy gut this one may have a different role.
		One study showed that a plant-based diet increased the levels of <i>Blautia obeum</i> and <i>Blautia faecis</i> . Instead, the levels of <i>B. massiliensis</i> decreased. Therefore, it may be that <i>B. massiliensis</i> is not as fond of fiber as other <i>Blautia</i> species.
 Blautia_A sp003480185 	1.16%	This is a newly detected species of <i>Blautia</i> so we don't know much about it. Like most <i>Blautia</i> , it probably thrives on plant-based foods and provides benefits to your gut.

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All species

•		
 Anaerostipes hadrus 	1.11%	 Barnesiella intestiniho
Mediterraneibacter torques	1.09%	 Bacteroides ovatus
• Catenibacterium sp000437715	0.90%	CAG-495 sp00191712
• UBA1691 sp900544375	0.88%	 Blautia_A faecis
• Dysosmobacter welbionis	0.85%	 Anaerobutyricum hallii
 Blautia_A caecimuris 	0.74%	 Lachnospira rogosae
 Alistipes putredinis 	0.71%	 Alistipes shahii
Desulfovibrio piger_A	0.71%	 Blautia_A obeum
 Bacteroides faecis 	0.66%	• Flavonifractor plautii
 Bacteroides thetaiotaomicron 	0.64%	• Alistipes onderdonkii
 Megamonas funiformis 	0.62%	Fusobacterium_B sp90
• UBA9502 sp900538475	0.57%	Odoribacter splanchni
• Paraprevotella clara	0.48%	 Megasphaera stantoni
 Ruminiclostridium_E siraeum 	0.43%	Ruthenibacterium lact
• Amedibacterium intestinale	0.41%	 Butyricimonas paraviro
Enterocloster bolteae	0.38%	 Eubacterium_l ramulus
 Faecalibacterium prausnitzii_D 	0.37%	Dorea formicigenerans
 Faecalibacterium prausnitzii_G 	0.36%	Bacteroides cellulosily
• Blautia_A sp003471165	0.36%	• Flavonifractor sp0005
• Dorea_A longicatena	0.35%	• UMGS1375 sp900066
 Bacteroides finegoldii 	0.32%	• Roseburia inulinivoran
 Blautia_A schinkii 	0.30%	Agathobaculum sp003
Evtepia gabavorous	0.27%	Anaerotignum sp0013
 Mediterraneibacter faecis 	0.26%	• CAG-41 sp900066215
 Emergencia timonensis 	0.25%	Enterocloster sp00151
• UMGS1071 sp900542375	0.25%	• Dorea_A longicatena_E
 Bilophila sp900550745 	0.24%	Bariatricus comes
• CAG-81 sp000435795	0.22%	 Sutterella wadsworthe
• Phocaeicola sp002493165	0.21%	 Faecalimonas umbilica

physician or practitioner. These insights are determined by evaluating current research and may change over time to reflect the most up to date research available.

 Barnesiella intestinihominis 	1.10%
 Bacteroides ovatus 	1.02%
• CAG-495 sp001917125	0.89%
 Blautia_A faecis 	0.86%
 Anaerobutyricum hallii 	0.75%
 Lachnospira rogosae_A 	0.71%
• Alistipes shahii	0.71%
• Blautia_A obeum	0.68%
 Flavonifractor plautii 	0.66%
 Alistipes onderdonkii 	0.63%
Fusobacterium_B sp900545035	0.58%
Odoribacter splanchnicus	0.55%
 Megasphaera stantonii 	0.46%
Ruthenibacterium lactatiformans	0.42%
 Butyricimonas paravirosa 	0.39%
 Eubacterium_I ramulus 	0.38%
• Dorea formicigenerans	0.37%
 Bacteroides cellulosilyticus 	0.36%
 Flavonifractor sp000508885 	0.36%
UMGS1375 sp900066615	0.32%
 Roseburia inulinivorans 	0.30%
Agathobaculum sp003481705	0.29%
Anaerotignum sp001304995	0.26%
• CAG-41 sp900066215	0.26%
Enterocloster sp001517625	0.25%
• Dorea_A longicatena_B	0.25%
• Bariatricus comes	0.22%
 Sutterella wadsworthensis 	0.22%
 Faecalimonas umbilicata 	0.21%

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r dient hame. Eindeey r disons	
Lawsonibacter sp902363045	0.20%
• CAG-145 sp000435715	0.18%
• Phocaeicola sp900554435	0.16%
 Dysosmobacter sp014297375 	0.15%
• Collinsella sp900759435	0.15%
 Bacteroides salyersiae 	0.14%
 Butyricimonas virosa 	0.14%
• Roseburia sp900552665	0.13%
 Romboutsia timonensis 	0.12%
Phascolarctobacterium_A succinatutens	0.12%
 Bifidobacterium longum 	0.11%
 Alistipes finegoldii 	0.11%
 Bacteroides intestinalis 	0.11%
Lawsonibacter sp000177015	0.10%
Clostridium_AQ innocuum	0.10%
Schaedlerella sp900066545	0.10%
• Roseburia intestinalis	0.09%
• Agathobacter faecis	0.09%
 Faecalibacterium sp900539945 	0.09%
 Erysipelatoclostridium ramosum 	0.08%
 Eggerthella lenta 	0.08%
Collinsella aerofaciens_G	0.08%
Eubacterium_G sp000435815	0.08%
• CAG-317 sp900543415	0.08%
 Acetatifactor sp900066565 	0.08%
 Victivallis sp002998355 	0.08%
Lachnospira sp900316325	0.08%
Catenibacterium sp900540685	0.07%
 Ruminococcus_A faecicola 	0.07%
• Collinsella sp003487125	0.07%
 Anaerobutyricum soehngenii 	0.07%

Patient name: Lindsey Parsons

Clostridium_Q sp000435655	0.19%
Collinsella sp003466125	0.16%
 Gemmiger qucibialis 	0.15%
 Butyricimonas faecihominis 	0.15%
 Bacteroides fragilis 	0.14%
Schaedlerella glycyrrhizinilytica	0.14%
 Faecalimonas phoceensis 	0.13%
Agathobacter sp900317585	0.12%
• Blautia_A sp900120195	0.12%
 Faecalibacterium prausnitzii_C 	0.11%
 Streptococcus anginosus 	0.11%
Bilophila wadsworthia	0.11%
• Faecalibacterium sp900539885	0.10%
 Slackia_A piriformis 	0.10%
GCA-900066135 sp900543575	0.10%
Bacteroides sp003463205	0.09%
• Agathobaculum butyriciproducens	0.09%
Phocaeicola plebeius_A	0.09%
Enterocloster sp000431375	0.08%
Agathobacter sp900546625	0.08%
 Gordonibacter urolithinfaciens 	0.08%
• Eubacterium_G sp900556905	0.08%
 Lachnospira eligens_A 	0.08%
Clostridium_Q sp003024715	0.08%
Lawsonibacter sp900066645	0.08%
Erysipelatoclostridium spiroforme	0.08%
Bacteroides sp900066265	0.07%
• UBA9502 sp900540335	0.07%
Anaerobutyricum sp900554965	0.07%
 Hungatella effluvii 	0.07%
• Eubacterium_F sp003491505	0.07%

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Kit ID: GEQ343

Patient name: Lindsey Parsons	Kit ID: GEQ343		Page 17	
 Collinsella sp900549355 	0.06%	Succinivibrio sp000431835	0.06%	
 Holdemania sp900120005 	0.06%	 Intestinimonas butyriciproducens 	0.06%	
 Alistipes senegalensis 	0.06%	 Catenibacterium mitsuokai 	0.06%	
Enterocloster clostridioformis	0.06%	Paraprevotella sp900548345	0.06%	
 Blautia_A wexlerae_B 	0.06%	• UBA9475 sp900549885	0.06%	
• TF01-11 sp001414325	0.05%	 Bifidobacterium infantis 	0.05%	
• Blautia sp001304935	0.05%	Catenibacillus sp900553975	0.05%	
• Collinsella sp002232035	0.05%	UMGS1670 sp900548595	0.05%	

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References

[1] A. Uzan-Yulzari et al., "Neonatal antibiotic exposure impairs child growth during the first six years of life by perturbing intestinal microbial colonization," Nat Commun, vol. 12, no. 1, p. 443, 2021, doi: 10.1038/s41467-020-20495-4. [2] K. E. Fujimura et al., "Neonatal gut microbiota associates with childhood multisensitized atopy and T cell differentiation," Nat Med, vol. 22, no. 10, pp. 1187-1191, 2016, doi: 10.1038/nm.4176. [3] M. B. Azad et al., "Infant gut microbiota and food sensitization: associations in the first year of life," Clin Exp Allergy, vol. 45, no. 3, pp. 632-643, 2015, doi: 10.1111/cea.12487. [4] H. M. Tun et al., "Roles of Birth Mode and Infant Gut Microbiota in Intergenerational Transmission of Overweight and Obesity From Mother to Offspring," Jama Pediatr, vol. 172, no. 4, p. 368, 2018, doi: 10.1001/jamapediatrics.2017.5535. [5] T. Vatanen et al., "The human gut microbiome in early-onset type 1 diabetes from the TEDDY study," Nature, vol. 562, no. 7728, pp. 589–594, 2018, doi: 10.1038/s41586-018-0620-2. [6] C. J. Stewart et al., "Temporal development of the gut microbiome in early childhood from the TEDDY study," Nature, vol. 562, no. 7728, pp. 583-588, 2018, doi: 10.1038/s41586-018-0617-x. [7] S. Tamburini, N. Shen, H. C. Wu, and J. C. Clemente, "The microbiome in early life: implications for health outcomes," Nat Med, vol. 22, no. 7, pp. 713-722, 2016, doi: 10.1038/nm.4142. [8] M. J. Ege, "The Hygiene Hypothesis in the Age of the Microbiome," Ann Am Thorac Soc, vol. 14, no. Supplement_5, pp. S348-S353, 2017, doi: 10.1513/annalsats.201702-139aw. [9] B. M. Henrick et al., "Bifidobacteria-mediated immune system imprinting early in life," Cell, 2021, doi: 10.1016/j.cell.2021.05.030. [10] A. Marcobal et al., "Bacteroides in the Infant Gut Consume Milk Oligosaccharides via Mucus-Utilization Pathways," Cell Host Microbe, vol. 10, no. 5, pp. 507-514, 2011, doi: 10.1016/j.chom.2011.10.007. [11] T. Wilmanski et al., "Gut microbiome pattern reflects healthy ageing and predicts survival in humans," Nat Metabolism, vol. 3, no. 2, pp. 274-286, 2021, doi: 10.1038/s42255-021-00348-0. [12] M. A. Jackson et al., "Signatures of early frailty in the gut microbiota," Genome Med, vol. 8, no. 1, p. 8, 2016, doi: 10.1186/s13073-016-0262-7.[13] J. M. Pickard, M. Y. Zeng, R. Caruso, and G. Núñez, "Gut microbiota: Role in pathogen colonization, immune responses, and inflammatory disease," Immunol Rev, vol. 279, no. 1, pp. 70-89, 2017, doi: 10.1111/imr.12567. [13] J. M. Pickard, M. Y. Zeng, R. Caruso, and G. Núñez, "Gut microbiota: Role in pathogen colonization, immune responses, and inflammatory disease," Immunol Rev, vol. 279, no. 1, pp. 70-89, 2017, doi: 10.1111/imr.12567. [14] O. Manor et al., "Health and disease markers correlate with gut microbiome composition across thousands of people," Nat Commun, vol. 11, no. 1, p. 5206, 2020, doi: 10.1038/s41467-020-18871-1. [15] M. Scudellari, "Cleaning up the hygiene hypothesis," Proc National Acad Sci, vol. 114, no. 7, pp. 1433-1436, 2017, doi: 10.1073/pnas.1700688114.[16] R. Debray, R. A. Herbert, A. L. Jaffe, A. Crits-Christoph, M. E. Power, and B. Koskella, "Priority effects in microbiome assembly," Nat Rev Microbiol, vol. 20, no. 2, pp. 109-121, 2022, doi: 10.1038/s41579-021-00604-w. [16] R. Debray, R. A. Herbert, A. L. Jaffe, A. Crits-Christoph, M. E. Power, and B. Koskella, "Priority effects in microbiome assembly," Nat Rev Microbiol, vol. 20, no. 2, pp. 109-121, 2022, doi: 10.1038/s41579-021-00604-w. [17] C. Huttenhower et al., "Structure, function and diversity of the healthy human microbiome," Nature, vol. 486, no. 7402, pp. 207–214, 2012, doi: 10.1038/nature11234. [18] P. I. Costea et al., "Enterotypes in the landscape of gut microbial community composition," Nat Microbiol, vol. 3, no. 1, pp. 8-16, 2018, doi: 10.1038/s41564-017-0072-8. [19] W. E. Anthony et al., "Acute and persistent effects of commonly used antibiotics on the gut microbiome and resistome in healthy adults," Cell Reports, vol. 39, no. 2, p. 110649, 2022, doi: 10.1016/j.celrep.2022.110649. [20] A. Palleja et al., "Recovery of gut microbiota of healthy adults following antibiotic exposure," Nat Microbiol, vol. 3, no. 11, pp. 1255-1265, 2018, doi: 10.1038/s41564-018-0257-9. [21] A. Bell et al., "Elucidation of a sialic acid metabolism pathway in mucusforaging Ruminococcus gnavus unravels mechanisms of bacterial adaptation to the gut," Nat Microbiol, vol. 4, no. 12, pp. 2393–2404, 2019, doi: 10.1038/s41564-019-0590-7.

[22] M. T. Henke, D. J. Kenny, C. D. Cassilly, H. Vlamakis, R. J. Xavier, and J. Clardy, "Ruminococcus gnavus, a member of the human gut microbiome associated with Crohn's disease, produces an inflammatory polysaccharide," Proc National Acad Sci, vol. 116, no. 26, pp. 12672–12677, 2019, doi: 10.1073/pnas.1904099116.

[23] W. Li et al., "Ecological and network analyses identify four microbial species with potential significance for the diagnosis/treatment of ulcerative colitis (UC)," Bmc Microbiol, vol. 21, no. 1, p. 138, 2021, doi: 10.1186/s12866-021-02201-6.

[24] F. Blachier, M. Beaumont, and E. Kim, "Cysteine-derived hydrogen sulfide and gut health," Curr Opin Clin Nutr, vol. 22, no. 1, pp. 68–75, 2019, doi: 10.1097/mco.00000000000526.

[25] S. C. Peck, K. Denger, A. Burrichter, S. M. Irwin, E. P. Balskus, and D. Schleheck, "A glycyl radical enzyme enables hydrogen sulfide production by the human intestinal bacterium Bilophila wadsworthia," Proc National Acad Sci, vol. 116, no. 8, pp. 3171–3176, 2019, doi: 10.1073/pnas.1815661116.

[26] H. M. HAMER, D. JONKERS, K. VENEMA, S. VANHOUTVIN, F. J. TROOST, and R. -J. BRUMMER, "Review article: the role of butyrate on colonic function," Aliment Pharm Therap, vol. 27, no. 2, pp. 104–119, 2008, doi: 10.1111/j.1365-2036.2007.03562.x.

[27] Y. Furusawa et al., "Commensal microbe-derived butyrate induces the differentiation of colonic regulatory T cells," Nature, vol. 504, no. 7480, pp. 446–450, 2013, doi: 10.1038/nature12721.

[28] H. Sokol et al., "Faecalibacterium prausnitzii is an anti-inflammatory commensal bacterium identified by gut microbiota analysis of Crohn disease patients," Proc National Acad Sci, vol. 105, no. 43, pp. 16731–16736, 2008, doi: 10.1073/pnas.0804812105.

[29] D. Ríos-Covián, P. Ruas-Madiedo, A. Margolles, M. Gueimonde, C. G. de los Reyes-Gavilán, and N. Salazar, "Intestinal Short Chain Fatty Acids and their Link with Diet and Human Health," Front Microbiol, vol. 7, p. 185, 2016, doi: 10.3389/fmicb.2016.00185.

[30] Q. Zhou et al., "Association Between Gut Akkermansia and Metabolic Syndrome is Dose-Dependent and Affected by Microbial Interactions: A Cross-Sectional Study," Diabetes Metabolic Syndrome Obes Targets Ther, vol. 14, pp. 2177–2188, 2021, doi: 10.2147/dmso.s311388.

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