Hi leonard,	
We are excited to show you what your body is fully capable with Thorne's multi-omic testing. Our platform uses AI and machine learning to create the most in-depth and accurate picture of your health. By mapping and integrating your personal results, we've identified the action you should take to improve and maintain your health.)
Got it Hide on future tests	

Gut Health - Panel Analysis

Overview

Historical (All Dates) 🗸

Your test results show a high dysbiosis level, indicating that the bacteria in your gut microbiome are out of balance. But don't worry! The good news is you can achieve an optimal balance through lifestyle, diet, and supplement changes so be sure to carefully read and follow your personalized recommendations.

Normal pathogen screen

Gut Pillars

Digestion CA

Optimal Range: > 33.0 • Your **Digestion** score is 49.5, which is within the optimal range and is considered low risk for poor digestion.

↑ score	You have an average or better level of bacteria present associated with ammonia production, increasing your digestion score
↑ score	You have an average or better level of bacteria present associated with amino acid degradation, increasing your digestion score

Insights 🖬

Good news!

0

Your high Digestion Score means you are at low risk for poor digestion. Proper digestion supports normal motility, optimal absorption in the small intestine, and nutrient utilization for your body from the foods you eat.

Your Digestion Score is influenced by the relative abundance of beneficial microorganisms found predominantly in the colon, which are responsible for protein fermentation, and whose activity produces various metabolites, such as ammonia. A high Digestion Score reflects a lower abundance of ammonia-producing bacteria from your stool sample; ammonia being a metabolite that you want to be low.

Your high Digestion Score and subsequent lower ammonia level is a reason that you aren't experiencing regular:

- Cramping or intestinal discomfort
- Bloating
- Diarrhea
- Constipation
- Excessive belching or gas
- Nausea or vomiting
- Heartburn or acid reflux

Your diet plays an important role in the digestion process and fuels the abundance of beneficial microbes that reside in your colon. If your diet is low in fruits, then it might not be providing your body with the phytonutrients or fibers you need for proper digestion and the fuel for bacteria. If your diet is low in nuts or seeds, then it can negatively influence your digestion and microbiome.

Clinical Evidence

- Richardson A, McKain N, Wallace R. Ammonia production by human faecal bacteria, and the enumeration, isolation and characterization of bacteria capable of growth on peptides and amino acids. BMC Microbiol 2013;13:6. Published 2013 Jan 11. doi:10.1186/1471-2180-13-6
- 2. Oliphant K, Allen-Vercoe E. Macronutrient metabolism by the human gut microbiome: major fermentation by-products and their impact on host health. Microbiome 2019;7:91. Published 2019 June 13. doi: 10.1186/s40168-019-0704-8
- Mills S, Stanton C, Lane J, et al. Precision nutrition and the microbiome. Part I: current state of the science. Nutrients 2019;11(4):923.
- 4. Panchal S, Müller-Schwefe P, Wurzelmann J. Opioid-induced bowel dysfunction: prevalence, pathophysiology and burden. Int J Clin Pract 2007;61(7):1181-1187. doi:10.1111/j.1742-1241.2007.01415.x
- Oliphant K, Allen-Vercoe E. Macronutrient metabolism by the human gut microbiome: major fermentation by-products and their impact on host health. Microbiome 2019; 7:91. Published 2019 June 13. doi: 10.1186/s40168-019-0704-8





Insights 🖬

Good news!

Your results show your Inflammation Score is low, meaning you are at low risk for having intestinal inflammation, as well as subsequent lower risk for systemic inflammation. A low Inflammation Score means your GI tract has low levels of the bacteria known to produce inflammatory endotoxins called lipopolysaccharides and lower levels of an immunologically-derived protein called calprotectin. In elevated amounts, these inflammation responses can disrupt the normal functioning of your GI tract and immune function, and manifest as undesirable symptoms with daily discomfort.

Your microbiome's low inflammation potential reduces your risk of experiencing frequent or severe:

- Acne
- Hives or rashes
- · Joint pain or aches
- Fatigue or weakness
- Headaches

Your daily diet also impacts your inflammation levels. By consuming less than three vegetable servings a day, as you reported, you might not be providing the microbiome with the nutrients it needs to flourish and maintain minimal inflammation, which can cause your inflammation risk to increase.

Clinical Evidence

- Boer C, Radjabzadeh D, Medina-Gomez C, et al. Intestinal microbiome composition and its relation to joint pain and inflammation. Nat Commun. 2019 Oct 25;10(1):4881. doi: 10.1038/s41467-019-12873-4.
- 2. Hills R, Pontefract B, Mishcon H, et al. Gut microbiome: profound implications for diet and disease. Nutrients 2019;11(7):1613.
- 3. Boer C, Radjabzadeh D, Medina-Gomez C, et al. Intestinal microbiome composition and its relation to joint pain and

inflammation. Nat Commun 2019 Oct 25;10(1):4881. doi: 10.1038/s41467-019-12873-4.

4. Hills R, Pontefract B, Mishcon H, et al. Gut microbiome: profound implications for diet and disease. Nutrients. 2019;11(7):1613.



Insights E

Your test results show some areas that need improvement.

Your Gut Dysbiosis Score is high, which is not ideal. This score is based on the number and type of good bacteria present in your gut compared to the number and kind of bad bacteria present. Your high score means you have a disproportionate number of bad bacteria present. A full list of the good, bad, and conditional bacteria is in the Appendix, with details of their health benefits or risks for disease. As an individual who has recently been on an antibiotic regimen, your microbiome dysbiosis level could be a result of this medication. Antibiotics destroy both harmful and beneficial bacteria in the gut, an effect that can persist without dietary and supplement intervention. Luckily, prebiotics and probiotics can support your ability to improve your dysbiosis by repopulating and helping the good bacteria to thrive.

Clinical Evidence

- 1. Imhann F, Bonder M, Vich Vila A, et al. Proton pump inhibitors affect the gut microbiome. Gut 2016;65:740-748.
- 2. Relman D. The human microbiome: ecosystem resilience and health. Nutr Rev 2012;70 Suppl 1(Suppl 1):S2-S9. doi:10.1111/j.1753-4887.2012.00489.x
- 3. Dethlefsen L, Relman D. Incomplete recovery and individualized responses of the human distal gut microbiota to repeated antibiotic perturbation. Proc Natl Acad Sci U S A 2011;108 Suppl 1(Suppl 1):4554-4561. doi:10.1073/pnas.1000087107
- 4. Jacobs C, Coss Adame E, Attaluri A, et al. Dysmotility and proton pump inhibitor use are independent risk factors for small intestinal bacterial and/or fungal overgrowth. Aliment Pharmacol Ther 2013;37(11):1103-1111. doi:10.1111/apt.12304





Insights 🖪

Good news!

Your Intestinal Permeability Score is low, meaning you are at low risk for experiencing a leaky gut. Your microbiome has a low level of the bad bacteria known to adversely affect the structural integrity of your gut cells and the gut's mucosal lining.

The GI tract has a semipermeable barrier that allows the absorption of nutrients, while limiting the transport of potentially harmful antigens and microorganisms. Its effectiveness is dependent on the structural integrity and molecular interactions of the intestinal mucosa, which operates synergistically to maintain the structure and immune homeostasis.

Too much high-intensity exercise or excessive longer duration moderate-intensity exercise can adversely impact your intestinal permeability and might increase your Intestinal Permeability Score. While regular exercise is beneficial for the microbiome, if you notice GI symptoms occurring more frequently or worsening, it might be related to your exercise volume and intensity.

Drinking less than one alcoholic beverage daily, as you reported, is helping you to maintain a lower risk for intestinal permeability. Alcohol decreases beneficial bacteria, making you more susceptible to leaky gut.

Clinical Evidence

- 1. Capurso G, Lahner E. The interaction between smoking, alcohol and the gut microbiome. Best Pract Res Clin Gastroenterol 2017;31(5):579-588.
- Pugh J, Impey S, Doran D, et al. Acute high-intensity interval running increases markers of gastrointestinal damage and permeability but not gastrointestinal symptoms. Appl Physiol Nutr Metab 2017;42(9):941-947. doi:10.1139/apnm-2016-0646
- 3. Huang C, Shi G. Smoking and microbiome in oral, airway, gut and some systemic diseases. J Transl Med 2019;17:225.

Collapse

Optimal Range: $\leq 66.0 \cdot$ Your **Nervous System** score is 50.0, which is within the optimal range and is considered low risk for gut-brain axis miscommunications.

Insights 🖬

Good news!

You have a low risk for an enteric nervous system (ENS) imbalance. A low score is desirable because it reflects a bacterial composition that is synergistically communicating with the brain to operate at a high level. An imbalance or dysregulation in the microbiome can impact mental capacity, cognitive function, and mood, including shifts in feelings of depression, anxiety, and stress.

Your low Nervous System Imbalance score makes you less susceptible to experiencing:

- Poor concentration or memory loss
- Insomnia
- Mood swings
- Anxiety, fear, or nervousness
- Depression
- Anger, irritability, or aggressiveness

The bacterial makeup of our gut microbiome impacts numerous channels of communication from the gut to the brain, often referred to as the gut-brain axis, influencing:

- Vagus nerve stimulation connecting the ENS with the autonomic nervous system (ANS) and the central nervous system (CNS), contributing to healthy blood pressure and heart rate regulation
- The release of short-chain fatty acids and secondary bile acids into the bloodstream to help regulate nutrient metabolism
- The production and release of positive neurotransmitters through the bloodstream, including GABA, serotonin, dopamine, and norepinephrine, which are responsible for mood and calmness
- The release of neuropeptides and hormones, such as ghrelin, leptin, cholecystokinin, and neuropeptide Y, which beneficially

affect appetite, metabolism, and food cravings

- The production of anti- and pro-inflammatory cytokines, which activate the immune system and affect brain cells
- The variation of the hypothalamic-pituitary-adrenal (HPA) axis, which creates the stress response and releases cortisol.

An elevated nervous system imbalance score would begin to affect your ability to maintain stress levels and perhaps your sleep quality.

Clinical Evidence

- Heiss C, Olofsson L. The role of the gut microbiota in development, function and disorders of the central nervous system and the enteric nervous system. J Neuroendocrinol 2019;31(5):e12684. doi:10.1111/jne.12684
- 2. De Vadder F, Grasset E, Mannerås Holm L, et al. Gut microbiota regulates maturation of the adult enteric nervous system via enteric serotonin networks. Proc Natl Acad Sci U S A 2018;115(25):6458-6463. doi:10.1073/pnas.1720017115
- Smith L, Wissel E. Microbes and the mind: how bacteria shape and affect, neurological processes, cognition, social relationships, development, and pathology. Perspect Psychol Sci 2019;14(3):397-418. doi:10.1177/1745691618809379
- Smith L, Wissel E. Microbes and the mind: how bacteria shape and affect neurological processes, cognition, social relationships, development, and pathology. Perspect Psychol Sci 2019;14(3):397-418. doi:10.1177/1745691618809379

Collapse

General Health



Insights 🖬

Room for improvement!

Your beta diversity score indicates your microbiome is dissimilar to other healthy adults. Beta diversity is a measure of the quantity and the quality of microbes in your gut and compares it to other healthy adults. The higher the score, the more different your microbiome is. A lower score is better for your current health goals and future health risks.

A lower beta diversity score is associated with a better ability to maintain weight, immune health, and as opposed to alpha diversity - a measure of the number of microbes in your gut - beta diversity helps you understand the number and quality (good and bad bacteria) to better evaluate what is present.

Exercise can have a major impact on the beta diversity level. Your exercise routine is likely helping you maintain a better beta diversity percentile. Research shows the regular exercise you are getting can have profound positive impacts on microbiome diversity, significantly reducing your risk for microbiome-related health conditions.

Clinical Evidence

- O'Sullivan O, Cronin O, Clarke S, et al. Exercise and the microbiota. Gut Microbes 2015;6(2):131-136. doi:10.1080/19490976.2015.1011875
- Monda V, Villano I, Messina A, et al. Exercise modifies the gut microbiota with positive health effects. Oxid Med Cell Longev 2017;2017:3831972. doi:10.1155/2017/3831972
- Wu L, Zeng T, Zinellu A, et al. A cross-sectional study of compositional and functional profiles of gut microbiota in Sardinian centenarians. mSystems 2019 4:e00325-19. https://doi.org/10.1128/mSystems.00325-19.
- Mullish B, Williams H. Clostridium difficile infection and antibioticassociated diarrhoea. Clin Med (Lond) 2018;18(3):237-241. doi:10.7861/clinmedicine.18-3-237
- Korpela K, Salonen A, Virta L, et al. Intestinal microbiome is related to lifetime antibiotic use in Finnish pre-school children. Nat Commun 2016;7:10410. Published 2016 Jan 26. doi:10.1038/ncomms10410

Collapse

CA

Your Immune Readiness: 42 You have a sub-optimal combination of immune supporting bacteria and metabolites Your Immune Readiness score needs improvement Your Faecalibacterium prausnitzii level is score high, increasing your immune readiness score. Your Akkermansia muciniphila level is low, score decreasing your immune readiness score. Your Prevotella level is high, increasing your ጥ score immune readiness score. Your Blautia level is high, decreasing your score immune readiness score. Your Streptococcus level is high, decreasing 🔸 score your immune readiness score.

Insights 🖪

Needs attention!

Your Immune Readiness Score is low, which is not desirable. This score is calculated based on the microbes present in your gut that are responsible for a proper immune response to a foreign pathogens (virus, bacteria, parasites) and an appropriate down-regulation of your immune system after the response.

Your low Immune Readiness Score means you lack the necessary types and abundances of the specific microorganisms involved in:

- Maintaining gut integrity so pathogens, their components, or dietary triggers cannot leak from your GI tract into your bloodstream
- Reducing gut inflammation

- Minimizing a hyperactive immune response by supporting T cell production, the cells necessary for down-regulating the immune response
- Supporting the adaptive immune system including supporting naïve cells to be "trained" to identify new invaders in your body
- Short-chain fatty acid production
- The content and types of "good" bacteria which have healthy associations with various immune parameters and autoimmunity

Age is a factor that can change your immune capabilities, but the microbiomes of some adults age better than others, and this is modifiable to a degree. As an adult older than 55, immunosenescence, or age-related changes to immune cells and function, could be affecting you now. Luckily, you can support your microbiome and immune function with your precise diet and lifestyle recommendations.

Clinical Evidence

- 1. Biagi E, Nylund L, Candela M, et al. Through ageing and beyond: gut microbiota and inflammatory status in seniors and centenarians. PLoS One 2010 May 17;5(5):e10667.
- 2. Biagi E, Franceschi C, Rampelli S, et al. Gut microbiota and extreme longevity. Curr Biol 2016 Jun 6;26(11):1480-1485.
- Santoro A, Ostan R, Candela M, et al. Gut microbiota changes in the extreme decades of human life: a focus on centenarians. Cell Mol Life Sci 2018 Jan;75(1):129-148.
- 4. Ticinesi A, Lauretani F, Milani C, et al. Aging gut microbiota at the cross-road between nutrition, physical frailty, and sarcopenia: is there a gut-muscle axis? Nutrients 2017;Nov 30;9(12). pii: E1303. doi: 10.3390/nu9121303.
- 5. Biagi E, Nylund L, Candela M, et al. Through ageing, and beyond: gut microbiota and inflammatory status in seniors and centenarians. PLoS One 2010 May 17;5(5):e10667.

Collapse

Pathogens

Normal	Your Pathogen Screen is normal
• normal	Your <u>Blastocystis parasite level is normal</u>
normal	Your <u>Campylobacter</u> bacteria level is normal
normal	Your <u>Clostridioides difficile</u> bacteria level is normal
normal	Your Cryptosporidium parasite level is normal
normal	Your Dientamoeba fragilis parasite level is normal
normal	Your Entamoeba histolytica parasite level is normal
normal	Your <u>Escherichia coli 0157:H7</u> bacteria level is normal
normal	Your <u>Giardia intestinalis</u> parasite level is normal
normal	Your <u>Helicobacter pylori</u> bacteria level is normal
normal	Your <u>Salmonella enterica bacteria level is</u> normal
normal	Your Vibrio cholerae bacteria level is normal

Insights 🖬

Looks good!

Although your pathogen screen has come back normal, this is not a diagnostic test. Most of what was screened for in your sample is typically present in the gut; it is just when it is at an elevated level that it can cause problems.

For future reference, you might come in direct or indirect contact with a pathogen, like touching a surface that contains it or from an insect that transfers it to you. Some pathogens can be transmitted through the air, like from a sneeze, or eating or drinking a contaminated food source. Be extra careful as you leave your house, travel, take public transportation, or try new foods, and do your best to avoid potential pathogen contact.

Collapse

Recommendations



Personalized recommendations below are algorithmically generated from your individual test results and medical literature related to correlations between health and lifestyle changes.

We always encourage you to share your results with your health-care practitioner. Don't have one? <u>Find a practitioner.</u>

Diet (3)



Follow a ketogenic or low-carbohydrate diet

Considering your microbiome results and health history, a ketogenic diet can best support your health goals.

A ketogenic diet has been used for more than 100 years in many populations as a treatment for epilepsy, and for decades to manage body weight, blood cholesterol levels, blood glucose and insulin, inflammation, and, more recently, dementia.

Regarding gut health, a ketogenic diet has been shown to reduce oxidative stress because of an increase in beta-hydroxybutyrate production, which promotes an anti-inflammatory response and is a preferred fuel source for the cells lining the colon. Research has found the ketogenic diet helps resolve chronic stomach and GI issues, including improving stool consistency, reducing pain and discomfort, improving stamina, supporting exercise energy and recovery, and improving overall quality of life.

A ketogenic diet is heavily restricted in carbohydrate content, moderate in protein, and high in dietary fat, which will put your body into a state referred to as nutritional ketosis. In nutritional ketosis, your body adapts to using fat as its primary fuel source instead of carbohydrates. It can take several weeks for the body to start making ketones at the desired level; however, once achieved, ketosis can be maintained with a well-formulated ketogenic diet, and you might be able to start adding back some carbohydrates.

Plan your ketogenic diet by determining the absolute minimal amount of carbohydrates you can consume for maximal benefits. The level to which you restrict carbohydrate intake will depend on your insulin resistance or tolerance to carbohydrates. For most individuals, restricting daily carbohydrate intake to 30-60 grams will achieve nutritional ketosis; individuals with less carbohydrate tolerance or higher insulin resistance might be in the lower range.

Carbohydrate intake in a well-formulated ketogenic diet should be sourced from a variety of colorful vegetables and berries, which provides robust fiber for your microbiome. Leafy greens are a great source of nutrients and fiber while remaining low in carbohydrate content. Other carbohydrate sources (grains, starches, sugars) are restricted in a ketogenic diet.

Protein should be consumed in an adequate but moderate amount between 1-2 grams per kilogram of body weight, which usually ends up being 10-25% of total calories. This amount is slightly above the FDA's Recommended Dietary Allowance because a ketogenic diet with too little protein can compromise lean muscle mass. In contrast, a ketogenic diet with too much protein can cause an insulin-stimulating effect and decrease ketosis. Meals and snacks should include protein from a variety of animal and plant sources.

Fats are the main source of your daily calories in a well-formulated ketogenic diet, usually making up 75-80 percent of daily calories. A variety of fats from animals, plants, and oils are regularly consumed to achieve calorie goals and satiety. Most protein sources should also contain some fat to achieve a high-fat intake.

Along with macronutrient considerations, sodium and magnesium intake should be given special attention because their requirements can become elevated due to metabolism changes that accompany a ketogenic diet. Additionally, ketogenic diets tend to be woefully deficient in fiber and antioxidants, unless well-planned to include them. By taking the time to plan out meals ahead of time, a wellformulated ketogenic diet will meet all of your dietary needs.

A ketogenic diet can also easily be gluten-free and dairy-free, if needed.

Foods allowed on the ketogenic diet:

- Natural meats: beef, pork, poultry, and fish
- Eggs
- Non-starchy vegetables: lettuces, cauliflower, broccoli, cucumber, celery, onion, kale, cabbage, spinach, collards, eggplant, okra, green beans, summer squash, peppers, mushrooms, asparagus, snow peas, and radishes. Eat as many of these and other non-starchy vegetables as you can. Also, in a highly inflamed gut, sometimes raw fruits and vegetables can cause distress. If you find this is an issue, you might want to cook your vegetables until your gut begins to heal.
- Low-sugar fruits: berries, avocado, olives, coconut, tomatoes in moderation
- Nuts: almonds, brazil nuts, walnuts, macadamia
- Seeds: flax, chia, hemp
- Dry wine in moderation (one glass per day maximum)
- Natural oils: olive, avocado, coconut

Foods to avoid on the ketogenic diet:

- High-sugar fruits and all juices: orange, banana, apple, cherry, grape, peach, pear, pineapple
- Starchy vegetables: potatoes, sweet potatoes, yams, carrots, beets, turnips, parsnips, winter squash
- All grains: wheat, corn, rice, oats, barley, millet, quinoa, wild rice
- · Legumes: dried beans, peas, lentils
- Sugars and sweeteners: cane, beet, high fructose corn sweetener, corn syrup, honey
- Beer, soda, other wines

To get started, check out these <u>ketogenic diet compliant recipes on</u> <u>Thorne's Take 5 Daily</u>.

References

Paoli A, Mancin L, Bianco A, et al. Ketogenic diet and microbiota: friends or enemies? *Genes (Basel)* 2019;10(7):534. Published 2019 Jul 15. doi:10.3390/genes10070534 Paoli A. Ketogenic diet for obesity: friend or foe? *Int J Environ Res Public Health* 2014 Feb 19;11(2):2092-2107. doi: 10.3390/ijerph110202092.

Davis J, Fournakis N, Ellison J. Ketogenic diet for the treatment and prevention of dementia: A review. *J Geriatr Psychiatry Neurol* 2020 Jan 30:891988720901785. doi: 10.1177/0891988720901785.

Collapse

Consume more nuts and seeds

Try to consume more fresh nuts and seeds, preferably raw, soaked, and dehydrated, which are high in beneficial phytochemicals, fiber, and oils. Avoid nuts and seeds with added flavorings. Whole seeds are preferable to already ground seeds, although freshly ground seeds, such as flax seeds, are a healthy and nutritious option.

Avoid eating habits that interfere with sleep

Make a goal to get more restful sleep. In addition to sleep's daily beneficial effects on energy, performance, and mental focus, a lack of sleep is associated with several adverse health conditions. Proper gut function and an optimal gut microbiome generally lead to better sleep. Avoid eating three hours before going to bed and avoid caffeine after 3:00 pm to support a higher-quality night's sleep.

Products (4)

Effusio® Prebiotic+ \$42 *******



Suggested Use: Drop one disc in 6-8 ounces preferred beverage, let disc dissolve, then stir well. Consume once daily.

Because of your test results, we recommend you take Prebiotic +. Prebiotic + is a unique, fiber-free blend of gut health ingredients that supports your digestive health and immune function without the gas and bloating often experienced with traditional fiber-based prebiotics.* Prebiotic + delivers a highly absorbable blend of prebiotic ingredients – including green tea, pomegranate, and blueberry polyphenols – that promote healthy gut flora, digestive balance, and optimal immune function.*



FloraSport 20B® \$37 ********

<u>Learn more</u>

Learn more

Suggested Use: Take 1 capsule daily with a meal.

An imbalanced microbiome can have far-reaching effects. In addition to GI symptoms, due to what is called the gut-brain connection, you might even experience beneficial mental or emotional effects. Because of your test results, we recommend that you take FloraSport 20B – a unique probiotic blend of 20 billion active cultures per capsule – that have broad-ranging benefits.*



Suggested Use: Take 1 capsule twice daily with a meal.

\$25

Basic B Complex

Because you are at risk for low levels of one or more B vitamins, we recommend **Basic B Complex**. Low B vitamin levels can be a result of an imbalanced microbiome (because some B vitamins are made by the good bugs in your gut). In addition, certain medications such as stomach acid blockers or hormonal birth control can cause B vitamin deficiencies. Basic B Complex contains all the B vitamins in the forms best used by the body. Suggested Use: Take 2 capsules daily with a meal.



Although your test results were normal, we want you to continue to thrive so we are recommending some basic nutritional support. Basic Nutrients 2/Day is a complete multi-vitamin/mineral formula that contains key nutrients for foundational support, including heart, brain, nerves, immune, bone, and skin health.* Basic Nutrients 2/Day uses the purest and most absorbable vitamins and minerals – without adding unnecessary additives and preservatives. It provides an excellent addition to a healthy diet, all in a convenient two-capsule-aday protocol.

Collapse

Additional Insights

Good Bacteria ST

The "good bacteria" below are well-researched and found to be highly beneficial for health. Your goal is to have and maintain average or better levels for each strain. Your percentile is compared to healthy adults.







recommendations will help achieve optimal levels for you and the conditions you reported. Your percentile is compared to healthy adults.











Ruminococcus bromii

10

Bad Bacteria ST

The Bad Bacteria below are well-researched and are associated with various health conditions adverse to your overall health. Your percentile is compared to healthy adults; the goal is to maintain a level that is below the 85th percentile for best health associations.

0









<u>Yersinia enterocolitica</u>

Short-Chain Fatty Acids

ST

This section reports your gut's capability to produce shortchain fatty acids and lactate based on the microbes present that are known to produce them.

This is an area you can improve upon - your goal is to fall in the optimal range for each. Short-chain fatty acids have numerous health benefits and are known to have anti-inflammatory effects, improve gut motility, reduce gut permeability, reduce intestinal lumen pH, and provide an important energy source. Lactate is an example of a biochemical byproduct produced by various microbes that, in excess, can negatively impact your health. Lactate at low levels can be normal in healthy individuals and have no significant impact. Still, as lactate begins to accumulate, it can further drive inflammatory and disease processes and lead to further complications of various conditions.







Micronutrients ST

Vitamin B12

Probiotics ST

The list of probiotics below includes the majority of commercially available strains and provides insight into which are present or missing from your gut. Also, use this list to check that your current prebiotic or probiotic supplement regimen is working for you by supporting the strains you are now consuming. Your goal is to maximize the presence of species you have present because they have many associated health benefits.

It is important to note that not all of these probiotic strains are commercially available as supplements, although luckily, many can be increased in the gut through precise prebiotic regimens.



Bifidobacterium bifidum O Bifidobacterium breve

o Bifidobacterium longum subsp. infantis

O Bifidobacterium longum subsp. longum

0

Contraction of the second seco





0

0

Lactobacillus delbrueckii subsp. bulgaricus

Lactobacillus delbrueckii subsp. delbrueckii

0



Cactobacillus gasseri



0

Lactobacillus paracasei

















* These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.