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NICHOLAS PERRY'S SCORES & RECOMMENDATIONS

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Dear Nicholas Perry,

The information on this report is for educational and informational use only. The information is not intended to be used by the customer for any diagnostic purpose and is not a substitute for professional medical advice. You should always seek the advice of your physician or other healthcare providers with any questions you may have regarding diagnosis, cure, treatment, mitigation, or prevention of any disease or other medical condition or impairment or the status of your health.

Test Name: Gut Intelligence Test, Human Gene Expression Test

Customer Name: Nicholas Perry

DOB: 05/01/1987

All My Scores

Let's improve these.

LPS Biosynthesis Pathways

Not Optimal

This score assesses the levels of activity of all microbial pathways leading to the production of LPS (lipopolysaccharides) in your gut. LPS is a pro-inflammatory molecule that gut microbes make, which can trigger your immune system response, especially if it passes to the bloodstream through the gut lining. This score is an important factor in assessing your inflammatory activity patterns.

LPS Biosynthesis Pathways Key

Reference Ranges:

- **Not Optimal** Represents 37% of the Viome population
- **Average** Represents 53% of the Viome population
- **Good** Represents 10% of the Viome population

**Scores are based on Viome's proprietary algorithm that incorporates relevant functional categories each consisting of multiple manually curated taxonomic and pathway scoring components.*

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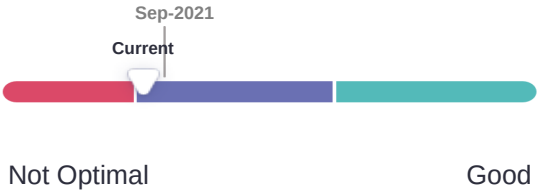
Putrescine Production Pathways

Not Optimal

This score assesses the levels of activity of all microbial pathways that lead to putrescine production. Putrescine is a molecular byproduct of protein fermentation - a microbial breakdown of protein. If the activities of putrescine production pathways are too high, it can be harmful to the gut environment and the intestinal barrier lining. It is also one of the signs that you may be eating too much protein that may not be digested properly.



Putrescine Production Pathways Key

Reference Ranges:

- **Not Optimal** Represents 36% of the Viome population
- **Average** Represents 56% of the Viome population
- **Good** Represents 8% of the Viome population

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Oxalate Metabolism Pathways

Not Optimal

This score assesses the levels of activity of all microbial pathways needed to break down or metabolize oxalate. Oxalates are a major contributor to kidney stones. Oxalate-metabolizing microbes can help you by removing and digesting oxalate that you ingested from food. A good score means oxalate-metabolizing activities are high in your microbiome. When this score is not optimal, you may see some of the foods high in oxalate content on your list to minimize or even avoid.

Oxalate Metabolism Pathways Key

Reference Ranges:

- **Not Optimal** Represents 70% of the Viome population
- **Average** Represents 17% of the Viome population
- **Good** Represents 13% of the Viome population

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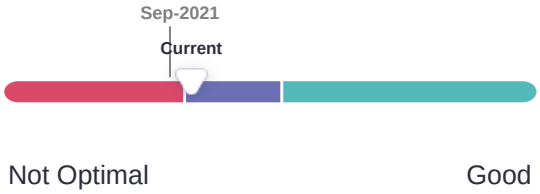
Uric Acid Production Pathways

Not Optimal

This score assesses the levels of activity of all microbial pathways that lead to the production of uric acid (or urate). Uric Acid is a normal byproduct that comes from the breakdown of compounds called purines, which can be found in beer, sugary sodas, seafood and shellfish, turkey, veal, bacon, and organ meats. Excessive amounts of uric acid can contribute to gout. A good score means that your uric acid production pathway levels are low.



Uric Acid Production Pathways Key

Reference Ranges:

- **Not Optimal** Represents 48% of the Viome population
- **Average** Represents 42% of the Viome population
- **Good** Represents 10% of the Viome population

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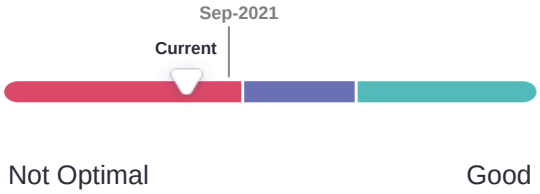
Bile Acid Metabolism Pathways

Not Optimal

This score assesses the levels of activity of all metabolic pathways that include bile acids. Normally bile acids are made by the liver to help with fat digestion. Bile acids enter the colon in the form of bile salts. Your gut microbiota can change them back into bile acids, after which they can even be recycled back to the liver. If this activity is relatively high or excessive, it may be an indicator of your inability to break down fat or absorb nutrients properly, which can contribute to a pro-inflammatory environment or negative liver-related effects, as microbiome's bile acid pathways have been implicated in fatty deposits in the liver. A good score means these pathway activity levels are low in your sample.



Bile Acid Metabolism Pathways Key

Reference Ranges:

- **Not Optimal** Represents 29% of the Viome population
- **Average** Represents 56% of the Viome population
- **Good** Represents 15% of the Viome population

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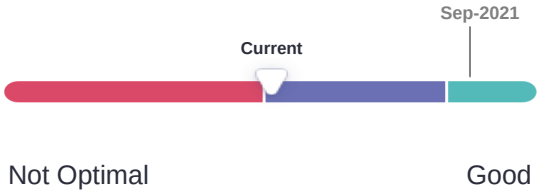
TMA Production Pathways

Not Optimal

This score assesses the levels of all activity of metabolic pathways that result in TMA production. TMA (trimethylamine) is a molecule that gets converted to TMAO (Trimethylamine N-oxide) in the liver. TMAO is associated with unfavorable metabolic and cardiovascular effects. Since one of the substances used for microbial TMA production is choline, reducing high-choline-containing foods in the diet may be one of the options for improving this pattern. A good score means these TMA production pathway activity levels are low.



TMA Production Pathways Key

Reference Ranges:

- **Not Optimal** Represents 10% of the Viome population
- **Average** Represents 69% of the Viome population
- **Good** Represents 21% of the Viome population

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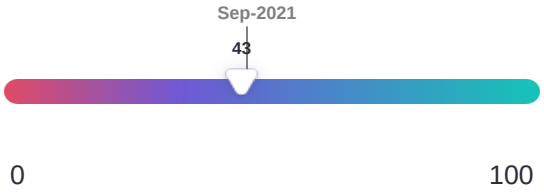
Gut Microbiome Health

Not Optimal

Your Gut Microbiome Health score integrates over 20 microbial functional scores. When this score is low it means that your gut microbiome may be producing chemicals that are causing inflammation (such as LPS, sulfide, or ammonia) or not producing enough nutrients that your body needs (such as butyrate, serotonin, and other vitamins). Our food and supplement recommendations are designed specifically for you to optimize your microbial functions and bring your gut microbiome into balance. Scroll down below to the section titled "How We Calculate This Score" to learn more. Did you know? In many ways, your gut bacteria are as vast and mysterious as the Milky Way. About 100 trillion bacteria, both good and bad, live inside your digestive system. Optimizing your microbial functions can help you achieve a healthy weight, boost energy, reduce stress, improve sleep, and strengthen your immunity.



Gut Microbiome Health Key

Reference Ranges:

- **Not Optimal** 0 to 44 which represents 31% of the Viome population
- **Average** 45 to 54 which represents 65% of the Viome population
- **Good** 55 to 100 which represents 4% of the Viome population

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Cellular Health

Not Optimal

Your Cellular Health score offers a complete picture of what is happening in the human body on the cellular level and takes into account the aging of your cells, cellular stress, cellular inflammation, along with the health of your mitochondria. If your Cellular Health score is not optimal or low, this can mean that your cellular functions are not performing efficiently, your energy production is low, or your cells are undergoing stress due to oxidative stress, inflammation, or environmental toxins. To improve this score, we may recommend antioxidants or anti-inflammatory food and supplements specifically for you. Scroll down below to the section titled "How We Calculate This Score" to learn more. Did you know? The human body is composed of trillions of cells that provide structure for the body, converting nutrients into energy and carrying out specialized functions. Every single cell in your body carries the same DNA.

Cellular Health Key

Reference Ranges:

- **Not Optimal** 0 to 43 which represents 20% of the Viome population
- **Average** 44 to 68 which represents 79% of the Viome population
- **Good** 69 to 100 which represents 1% of the Viome population

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Mitochondrial Health

Not Optimal

Your Mitochondrial Health score is an integrative score that assesses the efficiency of the functions of your mitochondria that are required to meet your body's energy and metabolic demands. If your Mitochondrial Health score is not optimal, it could mean that your cells are not receiving enough energy to function efficiently, resulting in accelerated aging, and poor metabolism, cardiovascular, and brain health. Your supplement recommendations may include nutrients to boost mitochondria production or other coenzymes needed to increase cellular energy (ATP). Scroll down below to the section titled "How We Calculate This Score" to learn more. Did you know? Mitochondria are considered the powerhouse of the cell, supplying energy for basic cellular functions like care and repair of cells in the body. Each cell contains hundreds to thousands of mitochondria that have their own DNA, known as mitochondrial DNA. In addition to analyzing microbial and human gene expression, Viome also analyzes the gene expression from your mitochondria.

Mitochondrial Health Key

Reference Ranges:

- **Not Optimal** 0 to 44 which represents 19% of the Viome population
- **Average** 45 to 68 which represents 79% of the Viome population
- **Good** 69 to 100 which represents 2% of the Viome population

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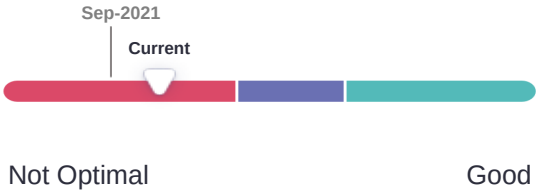
Mitochondrial Biogenesis Pathways

Not Optimal

Your Mitochondrial Biogenesis Pathways score assesses the activity levels of molecular pathways needed to biologically generate and maintain the cellular functions of your mitochondria to meet your body's energy and metabolic demands. This includes PGC1-alpha signaling - known as the master regulator of mitochondrial biogenesis. If this score is not optimal it may imply insufficient activity in your mitochondria support functions, either due to too much oxidative stress or deficiency in specific nutrients that may serve as cofactors needed for your specific mitochondrial biogenesis pathways (such as PGC1-alpha activators or NAD+ precursors).



Mitochondrial Biogenesis Pathways Key

Reference Ranges:

- **Not Optimal** Represents 24% of the Viome population
- **Average** Represents 66% of the Viome population
- **Good** Represents 10% of the Viome population

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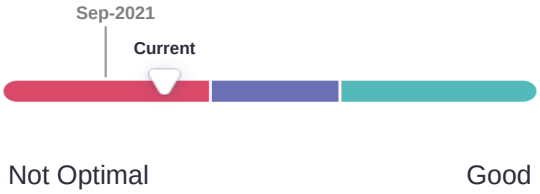
Energy Production Pathways

Not Optimal

Your Energy Production Pathways score evaluates the efficiency of your cell's ability to convert carbohydrates (glucose) into energy molecules that fuels our cells (otherwise known as ATP). If this score is not optimal it suggests that your mitochondrial metabolic activity may be relatively sluggish and could use a little boost from specific molecular targets or vitamin and cofactor or coenzyme supplements, such as CoQ10, NAD+ precursors, L-Carnitine, or various activators of AMPK (an activator of metabolic pathways, which stimulates mitochondrial ATP production).



Energy Production Pathways Key

Reference Ranges:

- **Not Optimal** Represents 35% of the Viome population
- **Average** Represents 63% of the Viome population
- **Good** Represents 2% of the Viome population

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Immune System Activation

Not Optimal

Your immune system keeps you alive by activating the right pathways and functions to fight off any threat. Too much immune system activation can be damaging to your body, while too little is not optimal either. When your Immune System Activation score is high (in the high red zone), it means there is too much immune system activation that could be due to stress, fighting some infection, something that immune cells recognize as foreign (even if it is own body cell components), an allergic reaction or food sensitivity, or there may be too many pro-inflammatory (and not enough anti-inflammatory) responses telling your immune system to "let the guard down." When there is too little expression (in the low red zone), it is also not optimal because it may suggest that too little activity is happening from the immune system side. Pathway themes combined into the Immune System Activation score include: • Antiviral or antibacterial defense response, needed to combat any foreign threat to the body by specialized immune system cells • Proinflammatory cytokine signaling (including IL-1, IL-6, IL-8, TNF-alpha, and multiple pathways of activation of NF-kappa B gene expression) • Tissue remodeling and wound healing (this can occur even in the absence of any wounds, when cellular conditions signal damage) • Histamine signaling an allergic response • Prostaglandin Biosynthesis (COX2), which can lead to increased inflammation and pain in various parts of the body

Immune System Activation Key

Reference Ranges:

- **Not Optimal** 0 to 40, 65 to 100 which represents 22% of the Viome population
- **Average** 57 to 64 which represents 19% of the Viome population
- **Good** 41 to 56 which represents 59% of the Viome population

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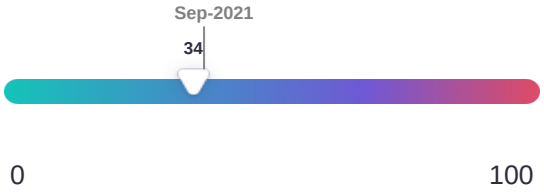
Inflammatory Activity

Good

This score measures the activities of your microbes that can contribute to or reflect inflammation in your gut environment. Inflammation in your gut can be caused by harmful things your microbes produce when you are either inefficiently digesting your proteins, have excessive microbial gas production, or simply have a gut environment that your microbes perceive as threatening. A score in the red zone (not optimal) means that there are relatively more pro-inflammatory activities, as opposed to anti-inflammatory or protective ones. Everyone's pattern is unique, so if your score is in the red, some of your recommendations may focus on boosting more of the protective and healing anti-inflammatory functions, while others may focus more on controlling and balancing out the more harmful pro-inflammatory microbes and functions. Follow your recommendations to maintain a good range or improve this score.



Inflammatory Activity Key

Reference Ranges:

- **Not Optimal** 50 to 100 which represents 5% of the Viome population
- **Average** 36 to 49 which represents 83% of the Viome population
- **Good** 0 to 35 which represents 12% of the Viome population

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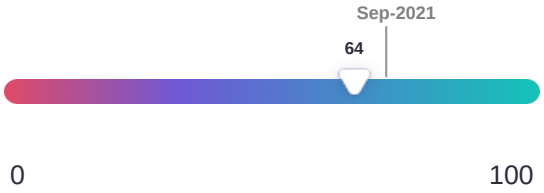
Stress Response Health

Good

Your Stress Response Health score combines insights from your microbiome-induced stress factors as well as your cellular functions that get activated in response to various triggers of cellular stress. If your Stress Response score is low or not optimal, it could mean that your microbiome is under stress due to either excess salt or protein, or toxins produced by the microbiome as a result of an unbalanced diet. It could also mean that your cellular stress is high which can be triggered by things like environmental toxins, free radicals, or lifestyle related stress. Your recommended food and supplements will address your unique patterns of stress at a molecular level and may include antioxidants or anti-inflammatory nutrients designed specifically for you. Scroll down below to the section titled "How We Calculate This Score" to learn more. Did you know? Changes in lifestyle, food, and supplement intake can address your unique patterns of stress at a molecular level and supply you with cellular balance and resilience.



Stress Response Health Key

Reference Ranges:

- **Not Optimal** 0 to 36 which represents 5% of the Viome population
- **Average** 37 to 59 which represents 90% of the Viome population
- **Good** 60 to 100 which represents 5% of the Viome population

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Cellular Stress

Good

Our Cellular Stress score measures pathway activities that either lead to or are reflective of cellular stress. Too much stress at a cellular level can contribute to damage and dysfunction, which can also expedite cellular aging. A score that is not optimal means that your body needs support in mitigating one or many of the following areas: • Oxidative stress: excessive reactive oxygen species (ROS) and insufficient antioxidant activities needed to remove them (including Sirtuins and NRF2) • Unfolded protein response (UPR) or Endoplasmic Reticulum (ER) stress which can be caused by inflammation, high-fat diet, environmental exposures or microbial sources of stress • Genotoxic stress: DNA damage caused by toxins, which can elicit biochemical responses that either signal the need for quick repair or cell death (if the damage is too high). • Hypoxia-induced stress: insufficient oxygenation levels in the blood, often accompanied by HIF1-alpha - pathway activation • Stress-induced pro-apoptotic signaling, such as overly active p38/JNK or Calcium signaling pathways, all of which can cause otherwise healthy cells to die via programmed cell death, or apoptosis • Antiviral or antimicrobial stress response (cell's lowered ability to defend and sustain itself from foreign invaders)

Cellular Stress Key

Reference Ranges:

- **Not Optimal** 67 to 100 which represents 4% of the Viome population
- **Average** 45 to 66 which represents 70% of the Viome population
- **Good** 0 to 44 which represents 26% of the Viome population

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Cellular Senescence

Good

Your Cellular Senescence score assesses processes involved in progressive decline in your cells' vital functions usually associated with cellular aging such as: • Cellular proteostasis (ability to make, fold, deliver and degrade various proteins) • DNA damage markers and repair signaling • Regulation of telomeres and cellular immortalization • Oxidative and other stress-induced progressive functional decline • Autophagy, stem-cell and regenerative signaling decline A score that is not optimal suggests that your body is not providing the needed cellular activities to remedy the stress processes, restore homeostasis, and rid cells of debris in an efficient manner. Did you know? As cells age, they stop dividing. We call this cellular senescence. These aging cells become dysfunctional, excreting more and more of their harmful byproducts into your body and the bloodstream, causing further cellular inflammation, damage, and stress throughout the body.

Cellular Senescence Key

Reference Ranges:

- **Not Optimal** 67 to 100 which represents 4% of the Viome population
- **Average** 46 to 66 which represents 68% of the Viome population
- **Good** 0 to 45 which represents 28% of the Viome population

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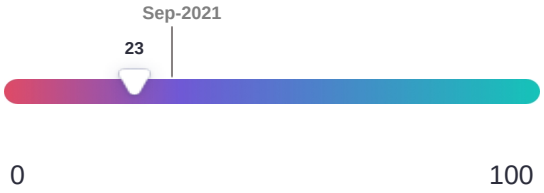
Metabolic Fitness

Average

This score represents active microbial organisms and functions that are associated with your blood sugar, insulin resistance, or weight control. A good score (in the green zone) means high activity of microbes and their functions favorably associated with your metabolic fitness. It is important to note that a Metabolic Fitness score that falls within the red zone does not necessarily translate to excessive weight loss or gain. Follow your recommendations to support or improve healthy metabolic functions.



Metabolic Fitness Key

Reference Ranges:

- **Not Optimal** 0 to 22 which represents 10% of the Viome population
- **Average** 23 to 31 which represents 65% of the Viome population
- **Good** 32 to 100 which represents 25% of the Viome population

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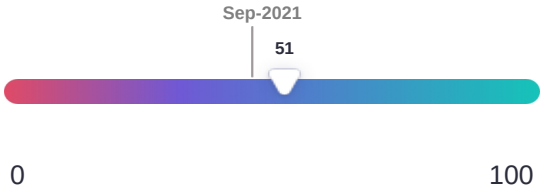
Digestive Efficiency

Average

This score is a comprehensive microbial reflection of your gastrointestinal (GI) tract functions. The score consists of multiple activity patterns related to digestion, such as the movement of food, specific macronutrient breakdown ability, and your gut lining health from your first bite of food to the time it leaves your body. When this score is suboptimal, it means that some of your digestive functions need support.



Digestive Efficiency Key

Reference Ranges:

- **Not Optimal** 0 to 46 which represents 42% of the Viome population
- **Average** 47 to 64 which represents 48% of the Viome population
- **Good** 65 to 100 which represents 10% of the Viome population

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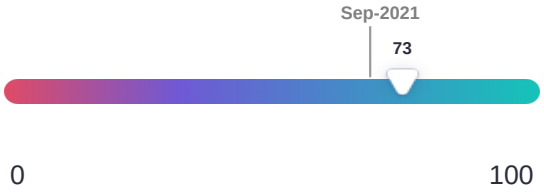
Gut Lining Health

Average

This score focuses on your gut lining (or intestinal barrier) and the health of the mucosal layer that protects it. When your gut lining is compromised, things from the outside environment, like toxins, medications, and harmful bacteria, can make their way into your bloodstream from your gut and negatively affect your immune system and overall wellbeing. A good score (in the green zone) means more optimal microbial functions that support your intestinal barrier and fewer disruptive or harmful functions are active in your gut. Follow your recommendations to address your specific pattern of microbial functions, and to prevent any intestinal permeability known as 'leaky gut'.



Gut Lining Health Key

Reference Ranges:

- **Not Optimal** 0 to 65 which represents 11% of the Viome population
- **Average** 66 to 77 which represents 77% of the Viome population
- **Good** 78 to 100 which represents 12% of the Viome population

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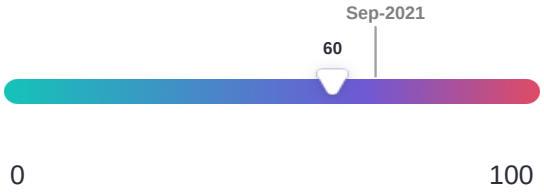
Protein Fermentation

Average

This score reflects whether or not you are digesting your proteins properly. Protein digestion begins when you first start chewing and continues down in your stomach. If the protein is not fully broken down through this process, your microbes will digest the excess protein available and may convert it into harmful byproducts. Overly high microbial protein fermentation translates into a score within the red zone, suggesting your protein digestion is suboptimal.



Protein Fermentation Key

Reference Ranges:

- **Not Optimal** 65 to 100 which represents 59% of the Viome population
- **Average** 36 to 64 which represents 32% of the Viome population
- **Good** 0 to 35 which represents 9% of the Viome population

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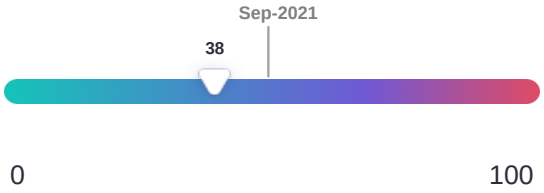
Gas Production

Average

This score is an assessment of your overall gas production activity by the microbes in your gut. Overall high microbial gas production has been associated with digestive difficulties, discomfort, and gut inflammation. A good score means that your microbes are not actively engaged in gas production functions.



Gas Production Key

Reference Ranges:

- **Not Optimal** 60 to 100 which represents 22% of the Viome population
- **Average** 36 to 59 which represents 61% of the Viome population
- **Good** 0 to 35 which represents 17% of the Viome population

**Scores are based on Viome's proprietary algorithm that incorporates relevant functional categories each consisting of multiple manually curated taxonomic and pathway scoring components.*

Learn more by reading our references:
https://viome.com/referenceresults

Test Name: Gut Intelligence Test, Human Gene Expression Test

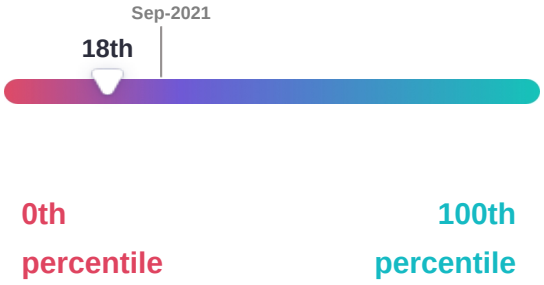
Customer Name: Nicholas Perry

DOB: 05/01/1987

Active Microbial Diversity

Average

The score is your percentile for total count of active microbial species detected and sequenced from your sample. A good score translates to more richness, which in turn can provide more resilience to your microbial gut ecosystem and your body. This score could use some improvement when the count of active microbes is relatively low and your gut flora could use additional microbes in its active composition. Your recommendations may include certain supplements or fermented foods that address this score.



Active Microbial Diversity Key

Reportable Range -13.6 to 8.53

Reference Ranges:

- **Not Optimal** -13.6 to -2.77 combined metric represents 0 to 5th percentile of the Viome population
- **Average** -2.76 to 2.44 combined metric represents 6th to 94th percentile of the Viome population
- **Good** 2.45 to 8.53 combined metric represents 95th to 100th percentile of the Viome population

**Scores are based on Viome's proprietary algorithm that incorporates relevant functional categories each consisting of multiple manually curated taxonomic and pathway scoring components.*

Learn more by reading our references:
https://viome.com/referenceresults

Test Name: Gut Intelligence Test, Human Gene Expression Test

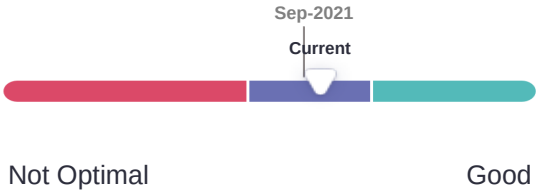
Customer Name: Nicholas Perry

DOB: 05/01/1987

Butyrate Production Pathways

Average

This score assesses the levels of activity of all microbial pathways that lead to the production of a beneficial nutrient - butyrate. Butyrate is a short-chain fatty acid known to beneficially affect many wellness areas from gut lining to insulin sensitivity and satiety (feeling full). A score that is not optimal means that your microbial butyrate production could really use a good boost! Individuals with low butyrate production activity would benefit from supplements or foods that either feed or add butyrate producing microbes into your gut ecosystem.



Butyrate Production Pathways Key

Reference Ranges:

- **Not Optimal** Represents 10% of the Viome population
- **Average** Represents 65% of the Viome population
- **Good** Represents 25% of the Viome population

**Scores are based on Viome's proprietary algorithm that incorporates relevant functional categories each consisting of multiple manually curated taxonomic and pathway scoring components.*

Learn more by reading our references:
https://viome.com/referenceresults

Test Name: Gut Intelligence Test, Human Gene Expression Test

Customer Name: Nicholas Perry

DOB: 05/01/1987

Methane Gas Production Pathways

Average

This score assesses the levels of activity of all microbial pathways that result in giving off methane gas in your gut. This kind of activity, when high, has been linked with some motility issues in the gut (how your food moves along the digestive tract), as well as pro-inflammatory patterns that can negatively affect your intestinal lining. A good score means that the activity of methane production pathways is low.

Methane Gas Production Pathways Key

Reference Ranges:

- **Not Optimal** Represents 30% of the Viome population
- **Average** Represents 42% of the Viome population
- **Good** Represents 28% of the Viome population

**Scores are based on Viome's proprietary algorithm that incorporates relevant functional categories each consisting of multiple manually curated taxonomic and pathway scoring components.*

Learn more by reading our references:
https://viome.com/referenceresults

Test Name: Gut Intelligence Test, Human Gene Expression Test

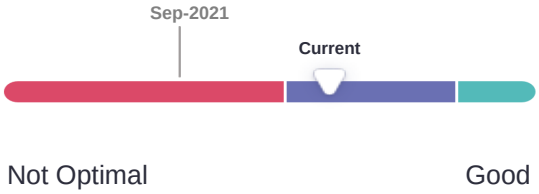
Customer Name: Nicholas Perry

DOB: 05/01/1987

Sulfide Gas Production Pathways

Average

This score assesses the levels of activity of all microbial pathways that result in the production of hydrogen sulfide gas. It can be made from some proteins that contain sulfur amino acids or from ingested sulfate or sulfite molecules found in foods like dried fruit, preserved meats, and some alcoholic beverages. This kind of activity, when high, contributes to pro-inflammatory patterns potentially harmful to the gut lining, as well as slowing of your motility (moving the food down your digestive tract). A good score means that the activity of sulfide production pathways is low.



Sulfide Gas Production Pathways Key

Reference Ranges:

- **Not Optimal** Represents 35% of the Viome population
- **Average** Represents 58% of the Viome population
- **Good** Represents 7% of the Viome population

**Scores are based on Viome's proprietary algorithm that incorporates relevant functional categories each consisting of multiple manually curated taxonomic and pathway scoring components.*

Learn more by reading our references:
https://viome.com/referenceresults

Test Name: Gut Intelligence Test, Human Gene Expression Test

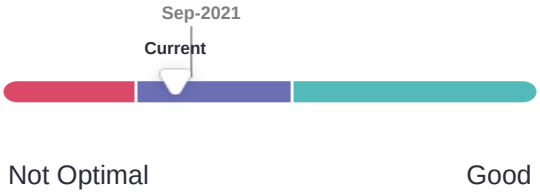
Customer Name: Nicholas Perry

DOB: 05/01/1987

Flagellar Assembly Pathways

Average

This score assesses the levels of activity of all microbial pathways leading to the making of a structure called flagella. Flagellar structures serve as "fins" or "tails" for various microbes to help them move. A score that is not optimal suggests that these signaling pathway activities are high, indicating unrest in your microbiome as flagellar structures are helping beneficial organisms move away from a perceived threat. Higher than usual activity can also signal the presence of opportunistic organisms that are known to have these flagellar structures. This score is an important factor in assessing your inflammatory activity patterns.



Flagellar Assembly Pathways Key

Reference Ranges:

- **Not Optimal** Represents 38% of the Viome population
- **Average** Represents 51% of the Viome population
- **Good** Represents 11% of the Viome population

**Scores are based on Viome's proprietary algorithm that incorporates relevant functional categories each consisting of multiple manually curated taxonomic and pathway scoring components.*

Learn more by reading our references:
https://viome.com/referenceresults

Test Name: Gut Intelligence Test, Human Gene Expression Test

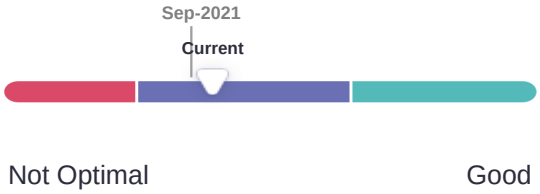
Customer Name: Nicholas Perry

DOB: 05/01/1987

Ammonia Production Pathways

Average

This score assesses the levels of activity of all microbial pathways that result in the production of ammonia. Ammonia gas can be made from amino acids as a byproduct of the breaking down of protein or from ingested nitrate or nitrite molecules found in things like food preservatives or additives, preserved meats, and dried fruit. This kind of activity, when high, contributes to pro-inflammatory patterns potentially harmful to the gut lining, as well as slowing of your motility (moving the food down your digestive tract), and is also one of the signs that your proteins may not be digested properly. A good score means that the activity of ammonia production pathways is low.



Ammonia Production Pathways Key

Reference Ranges:

- **Not Optimal** Represents 63% of the Viome population
- **Average** Represents 23% of the Viome population
- **Good** Represents 14% of the Viome population

**Scores are based on Viome's proprietary algorithm that incorporates relevant functional categories each consisting of multiple manually curated taxonomic and pathway scoring components.*

Learn more by reading our references:
https://viome.com/referenceresults

Test Name: Gut Intelligence Test, Human Gene Expression Test

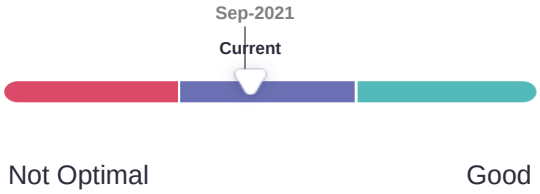
Customer Name: Nicholas Perry

DOB: 05/01/1987

Salt Stress Pathways

Average

This score assesses the levels of activity of all microbial pathways that signal excessive salt in the gut environment. This kind of signaling activity, when high, suggests that you may need to adjust your salt or sodium intake and/or your hydration levels. Too much salt for your gut microbiome makes your gut environment less favorable for some beneficial or probiotic organisms to thrive. A good score means that that pathway levels that signal microbial salt stress are low.



Salt Stress Pathways Key

Reference Ranges:

- **Not Optimal** Represents 16% of the Viome population
- **Average** Represents 70% of the Viome population
- **Good** Represents 14% of the Viome population

**Scores are based on Viome's proprietary algorithm that incorporates relevant functional categories each consisting of multiple manually curated taxonomic and pathway scoring components.*

Learn more by reading our references:
https://viome.com/referenceresults

Test Name: Gut Intelligence Test, Human Gene Expression Test

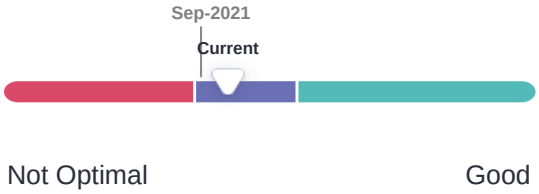
Customer Name: Nicholas Perry

DOB: 05/01/1987

Biofilm, Chemotaxis, and Virulence Pathways

Average

This score assesses the levels of all activity of all metabolic pathways that suggest a pro-inflammatory or hostile environment in the gut. This includes virulence factors, biofilm formation, and chemotaxis signaling, which are all important parts of your overall inflammatory activity patterns. When this score is relatively high it means that there is some threat in the environment and your microbes are trying to either defend themselves, attack each other, or move. This type of a "microbial war zone" can negatively impact your gut environment, and some of the "bullets" secreted by the microbes may trigger an immune response. A good score means that these pathway activities are at low levels.



Biofilm, Chemotaxis, and Virulence Pathways Key

Reference Ranges:

- **Not Optimal** Represents 64% of the Viome population
- **Average** Represents 24% of the Viome population
- **Good** Represents 12% of the Viome population

**Scores are based on Viome's proprietary algorithm that incorporates relevant functional categories each consisting of multiple manually curated taxonomic and pathway scoring components.*

Learn more by reading our references:
https://viome.com/referenceresults

Test Name: Gut Intelligence Test, Human Gene Expression Test

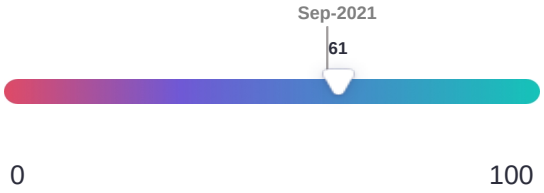
Customer Name: Nicholas Perry

DOB: 05/01/1987

Immune System Health

Average

Your Immune System Health score assesses your immune response based on the inflammatory activities throughout your body as well as inside of your gut. If this score is not optimal, it means that your immunity is low and your immune system's preparedness to invading bacteria or viruses needs support. We may recommend specific foods or supplements that either address harmful microbial activities, stimulate anti-inflammatory nutrients (like the short-chain fatty acids produced by the gut microbiome), or suppress proinflammatory molecules or allergy-related reactions in the body. Scroll down below to the section titled "How We Calculate This Score" to learn more. Did you know? Your body's immune system is your defense against the invisible invaders that seek to use you as a host to infect and reproduce. Your immune system may not be ready to fight the invading bacteria or viruses if it's already dealing with inflammation caused by cellular stress, an overactive immune system, or toxins produced by your gut microbiome due to an unhealthy diet.



Immune System Health Key

Reference Ranges:

- **Not Optimal** 0 to 42 which represents 32% of the Viome population
- **Average** 43 to 63 which represents 60% of the Viome population
- **Good** 64 to 100 which represents 8% of the Viome population

**Scores are based on Viome's proprietary algorithm that incorporates relevant functional categories each consisting of multiple manually curated taxonomic and pathway scoring components.*

Learn more by reading our references:
https://viome.com/referenceresults

Test Name: Gut Intelligence Test, Human Gene Expression Test

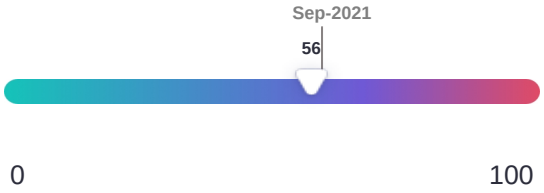
Customer Name: Nicholas Perry

DOB: 05/01/1987

Microbiome-Induced Stress

Average

Your Microbiome-Induced Stress score offers insights about those microbial activities that can lead to stress or inflammatory response not only in your gut, but also in your body. Toxins and other molecules produced by the gut microbiome may enter the bloodstream and contribute to cellular stress and pro-inflammatory pathways throughout your body. If this score is not optimal, it may suggest that these microbial activities need to be mitigated by either suppressing them, balancing them out with beneficial and protective microbial activities, or by strengthening your gut lining to prevent them from crossing the gut lining and affecting the rest of your body.



Microbiome-Induced Stress Key

Reference Ranges:

- **Not Optimal** 60 to 100 which represents 46% of the Viome population
- **Average** 36 to 59 which represents 49% of the Viome population
- **Good** 0 to 35 which represents 5% of the Viome population

**Scores are based on Viome's proprietary algorithm that incorporates relevant functional categories each consisting of multiple manually curated taxonomic and pathway scoring components.*

Learn more by reading our references:
https://viome.com/referenceresults

Test Name: Gut Intelligence Test, Human Gene Expression Test

Customer Name: Nicholas Perry

DOB: 05/01/1987

Biological Age

Good

Your Biological Age assesses the efficiency of your cellular activities and your gut microbial activities in order to determine how well you are aging in comparison with your chronological age. If your Biological Age is substantially higher than your chronological age, this means that at a cellular level, your body is aging faster compared with other people your age. Your food and supplement recommendations will target the underlying causes detailed in your other Integrative Health scores. Did you know? Nutrient levels in the body can influence various metabolic pathways. Among the affected parts of these pathways are proteins like IGF-1, mTOR, sirtuins, and AMPK. Changing levels of these proteins' pathways have implications on longevity and your biological age.

Biological Age Key

Reference Ranges:

- **Not Optimal:** 6 years or more above the actual age represents 33.48% of the Viome population
- **Average:** From 1 year below to 5 years above the actual age represents 20.75% of the Viome population
- **Good:** 2 years or more below the actual age represents 45.77% of the Viome population

**This score is based on the output of an AI system trained to learn the patterns of genetic activity that are associated with each age.*

Learn more by reading our references: https://viome.com/referenceresults

Recommendations

It's here! Your personalized Viome recommendations.

Your recommendations
Your personalized recommendations are based on the activity of microbes in your gut and the information you've provided. Your recommendations are aimed at balancing your overall microbiome. Let's put it this way: Your food list highlights foods that will be transformed by your microbes into beneficial substances while limiting foods that will be transformed into harmful metabolites.
Remember, you and your microbiome are unique, and no single recommendation applies to everyone. The same foods can be beneficial for one person, neutral for another, and harmful for others. Ready to dig in?

Your foods
Your food recommendations have been classified into 4 ranks to help you achieve optimum health and well-being. These are:

1. **Superfoods.** Meet your food destiny. These are your most beneficial foods.
2. **Enjoy.** Build a strong foundation with these nutrient dense foods.
3. **Minimize.** You should still eat these foods (but within limits).
4. **Avoid.** These foods are your personal kryptonite.

Your recommended servings
We all struggle to figure out serving sizes on food labels because they only act as measurement tools, they are not personalized for you.
With your food list, you get personalized servings to inform you on how much you should eat from each food category in a given day. And under each food, you'll find Viome's serving size, so you know the exact amount of that food to eat.
Tip: If you are very active in a day, you can increase your servings from each food category proportionally for that day.
Once you master your total servings per day, you can aim to achieve diversity by eating your recommended servings for each food rank.

Before you get started
Your success means a lot to us. Read our tips below before you begin.

What About Allergies?

You may notice some foods that you are allergic or sensitive to in your recommended food lists. Err on the side of caution. If you know you have a reaction or dislike to a recommended food, please do not consume it.

Foods are specifically chosen based on your unique microbiome rather than on allergies.

What about viruses?

You may see some foods placed on your avoid list due to viruses. Viruses are known to infect foods and have been associated with an inflammatory response. Internal Viome studies suggest that temporarily avoiding the virus-related foods for 3 to 4 weeks may be sufficient to reduce or eliminate activity of the viruses. You do not have to avoid all virus-related foods at once. After temporarily removing any virus-related food, you may choose to reintroduce that food back into your diet.

When is it best to eat?

Aim to eat 3 meals a day, and you may also need to snack in between meals. Avoid eating 1 hour before you go to bed.

Go for variety

Explore foods that you haven't tried and since we're at it, alternate choices instead of eating the same food every day. Choose different foods from each of your superfood, enjoy, and minimize food categories based on your recommended amounts.

Listen to your body

Your recommended amounts are a guideline on the quantity of foods you should aim for. Stop eating once you are comfortably satiated or 80% full. Monitor how you feel, including your **hunger** , **energy level** , and **mood** or other forms of discomfort 1-3 hours after eating. If you consistently feel worse in any of these areas, you may need to adjust your food choices.

What else?

In addition to your food plan, your microbiome and your metabolism will gain an extra benefit from interval training at least 3 times per week.

Caloric restriction may provide more benefit than intermittent fasting.

My Foods

Vegetables

64 recommended vegetables

4 avoid vegetables

9 servings of vegetables per day

Proteins & Fats

100 recommended proteins & fats

7 avoid proteins & fats

10 servings of proteins & fats per day

Fruits & Grains

70 recommended fruits & grains

1 avoid fruits & grains

5 servings of fruits & grains per day

Herbs, Spices & Other

57 recommended herbs, spices & other

3 avoid herbs, spices & other

11 servings of herbs, spices & other per day

My Superfoods

We recommend you eat more of these foods

These foods are specially forumulated to prioritize your gut's health and biodiversity.

Artichoke

Vegetables
1 cup, diced

Superfood

My Microbiome's Response to Artichoke

Artichokes contain inulin which is a prebiotic fiber. After an analysis of your gene expression and taking your questionnaire data into account, it has been determined that artichokes in your diet will be optimal for you. Inulin is converted by your microbiome to produce butyrate. It has been reported that inulin increases microbial diversity, prevents constipation, helps manage weight, regulates blood sugar and aids with gastrointestinal distress.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to artichokes.

Artichokes may improve your Butyrate Production Pathways score.
Learn more…

1. *https://www.ncbi.nlm.nih.gov/pubmed/29244718*

2. *https://www.ncbi.nlm.nih.gov/pubmed/29507837*

Arugula

Vegetables
1 cup

Superfood

My Microbiome's Response to Arugula

Arugula contains nitrate which is a beneficial nutrient. After an interpretation of your gene expression and taking your questionnaire data into account, it has been determined that arugula in your diet will be beneficial for you.

Nitrate feeds your gut microbiota, mainly Bifidobacterium and Lactobacillus species, allowing them to produce nitric oxide. Nitric oxide is anti-inflammatory, maintains the integrity of your gut lining, and can stimulate blood flow to your GI tract. It has been reported that nitrate also has effects outside of the gastrointestinal tract and can help balance hormones and blood vessel health.

Learn more…

1. *https://www.ncbi.nlm.nih.gov/pubmed/15722114*
2. *https://www.ncbi.nlm.nih.gov/pubmed/19007429*
3. *https://www.ncbi.nlm.nih.gov/pubmed/25803049*

Asparagus

Vegetables
15 spears

Superfood

My Microbiome's Response to Asparagus

Asparagus contains Vitamin B9 (Folate) which is a B vitamin. After an interpretation of your gene expression and taking your questionnaire data into account, it has been determined that asparagus in your diet will be of benefit for you. Vitamin B9 (Folate) can be created by some of your gut bacteria like Streptococcus thermophilus and Lactobacillus lactis. Others, such as Lactobacillus delbrueckii, cannot produce Vitamin B9 (Folate) but utilize it from food for energy. Research shows that Vitamin B9 (Folate) has many health benefits including helping to generate red blood cells, synthesize DNA, and enhance energy metabolism.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to asparagus.

Learn more…

1. *http://www.jhrr.org/text.asp?2014/1/1/5/143318*
2. *https://www.ncbi.nlm.nih.gov/pubmed/21933312*

3. *https://onlinelibrary.wiley.com/doi/full/10.1111/j.1365-2672.2011.05157.x*

Avocado

Proteins & Fats
1 half

Superfood

My Microbiome's Response to Avocado

Avocado contains fiber which is a complex carbohydrate. After an analysis of your gene expression and taking your questionnaire data into account, it has been determined that avocado in your diet will be beneficial for you. Fiber is converted by your microbiome to produce butyrate. Research shows that fiber increases microbial diversity, prevents constipation, helps manage weight, regulates blood sugar and aids with gastrointestinal distress.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to avocado.
Learn more…

1. *https://www.ncbi.nlm.nih.gov/pubmed/28230737*

2. *https://www.ncbi.nlm.nih.gov/pubmed/15173415*

3. *https://www.ncbi.nlm.nih.gov/pubmed/29902436*

Banana

Fruits & Grains
1 whole

Superfood

My Microbiome's Response to Banana

Bananas contain vitamin B6 which is a B vitamin. After an analysis of your gene expression and taking your wellness goals into account, it has been determined that bananas in your diet will be of benefit for you. Vitamin B6

has low bioavailability until metabolized by residents of your microbiome from the bacterial families Streptococcus and Lactobacillus. Although some of your microbes are able to produce vitamin B6 on their own, dietary supplementation ensures you are getting your recommended dose. Research shows that vitamin B6 is important for brain development, immune system function and skin collagen production.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to bananas.
Learn more…

1. *https://www.ncbi.nlm.nih.gov/pubmed/17066209*
2. *https://www.ncbi.nlm.nih.gov/pubmed/6651795*
3. *https://www.ncbi.nlm.nih.gov/pubmed/6651795*

Black Beans

Proteins & Fats
3/4 cup, cooked

Superfood

My Microbiome's Response to Black Beans

Black beans contain magnesium which is a mineral. After analyzing your gene expression and taking your questionnaire data into account, it has been determined that black beans in your diet will be good for you. Magnesium is great for your microbiome - it can increase the abundance of Bifidobacterium species. These microbes help digest fiber, which produces butyrate, a short-chain fatty acid that balances inflammation and some Bifidobacteria further promote the release of nutrients like magnesium from dietary sources. Studies indicate that magnesium decreases inflammation, protects your heart, and is an essential cofactor for many different enzymes.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to black beans.
Learn more…

1. *https://www.ncbi.nlm.nih.gov/pubmed/29389872*

2. https://www.ncbi.nlm.nih.gov/pubmed/18568054

3. https://www.ncbi.nlm.nih.gov/pubmed/20089787

Broccoli

Vegetables
1 cup

Superfood

My Microbiome's Response to Broccoli

Broccoli contains alpha-lipoic acid which is a antioxidant. After analyzing your gene expression and taking your wellness goals into account, it has been determined that broccoli in your diet will be optimal for you. Alpha-lipoic acid (ALA) is essential for energy production and can also act as antioxidant. ALA's role in energy production involves being a critical cofactor for mitochondrial energy production enzymes such as pyruvate dehydrogenase (PDH), alpha-ketoglutarate dehydrogenase (alpha-KGDH), and branched-chain ketoacid dehydrogenase (BCKDC).

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to broccoli.

Broccoli may improve your Energy Production Pathways and Mitochondrial Health scores.
Learn more...

1. https://academic.oup.com/biomedgerontology/article/61/7/650/822618

2. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3600316/

Cinnamon

Herbs, Spices & Other
1/4 teaspoon

Superfood

My Microbiome's Response to Cinnamon

Cinnamon contains cinnamaldehyde which is a phytochemical. After analyzing your gene expression and taking your data into account, it has been determined that cinnamon in your diet will be beneficial for you. Phytochemicals are metabolized into smaller compounds, like cinnamaldehyde, by your microbiome prior to absorption. It has been reported that cinnamaldehyde has antimicrobial properties and can protect us from harmful bacteria, viruses, and pathogens.

Cinnamon may improve your Putrescine Production Pathways score.
Learn more…

1. *https://pubmed.ncbi.nlm.nih.gov/10617061/*

Coconut Meat

Proteins & Fats
1 1/2 ounces

Superfood

My Microbiome's Response to Coconut Meat

Coconut meat contains medium chain triglycerides which are a class of fatty acids. After an interpretation of your gene expression and taking your wellness goals into account, it has been determined that coconut meat in your diet will be good for you. Medium chain triglycerides are known for their anti-inflammatory properties. They decrease intestinal inflammation, altering your gut environment to help beneficial bacteria thrive. Studies indicate that medium chain triglycerides decrease the abundance of unhealthy gut bacteria which correlates to a 30% increase in gut health. Medium chain triglycerides are metabolized into smaller compounds by your microbiome.
Learn more…

1. *https://www.ncbi.nlm.nih.gov/pubmed/26177664/*

Garlic

Herbs, Spices & Other
1 clove

Superfood

My Microbiome's Response to Garlic

Garlic contains FOS which is a prebiotic. After an interpretation of your gene expression and taking your data into account, it has been determined that garlic in your diet will be good for you. FOS stimulates the growth of beneficial bacteria like Lactobacillus strains which produce butyrate - a short-chain fatty acid that decreases inflammation and strengthens your gut lining. It also decreases the activity of less beneficial organisms. Studies indicate that FOS helps manage weight and protects against metabolic syndrome.

Garlic may improve your Butyrate Production Pathways score.
Learn more…

1. *https://www.ncbi.nlm.nih.gov/pubmed/28213610*

2. *https://www.sciencedirect.com/science/article/pii/S1051227602442070*

Grapes

Fruits & Grains
1 cup

Superfood

My Microbiome's Response to Grapes

Grapes contain resveratrol which is a polyphenol. After an interpretation of your gene expression and taking your wellness goals into account, it has been determined that grapes in your diet will be of benefit for you. Resveratrol supports healthy mitochondrial functioning by stimulating mitochondrial biogenesis, a process in which mitochondria increase in mass and produce more energy. Resveratrol activates the peroxisome proliferator-activated receptor gamma coactivator 1-alpha (PGC-1alpha) pathway, which is a master regulator of mitochondrial biogenesis. In addition, resveratrol also regulates the gene expression of anti-oxidative enzymes such as NADPH oxidases (Nox), superoxide dismutase (SOD) and glutathione peroxidase 1 (GPx1).

Grapes may improve your Mitochondrial Biogenesis Pathways and Mitochondrial Health scores.
Learn more…

1. *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5883375/*

2. *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6412811/*

3. *https://pubmed.ncbi.nlm.nih.gov/20083859/*

Hazelnuts

Proteins & Fats
15 nuts

Superfood

My Microbiome's Response to Hazelnuts

Hazelnuts contain magnesium which is a mineral. After an interpretation of your gene expression and taking your data into account, it has been determined that hazelnuts in your diet will be good for you. Magnesium is great for your microbiome - it can increase the abundance of Bifidobacterium species. These microbes help digest fiber, which produces butyrate, a short-chain fatty acid that balances inflammation. Some Bifidobacteria further promote the release of nutrients like magnesium from dietary sources. It has been reported that magnesium decreases inflammation, protects your heart, and is an essential cofactor for many different enzymes.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to hazelnuts.
Learn more…

1. *https://www.ncbi.nlm.nih.gov/pubmed/21609904*
2. *https://www.ncbi.nlm.nih.gov/pubmed/24290571*
3. *https://www.ncbi.nlm.nih.gov/pubmed/20089787*

Hot Pepper

Herbs, Spices & Other
1/2 teaspoon

Superfood

My Microbiome's Response to Hot Pepper

Hot peppers contain capsaicin which is a phytochemical. After analyzing your gene expression and taking your questionnaire data into account, it has been determined that hot peppers in your diet will be helpful for you. Capsaicin is anti-inflammatory and promotes microbial diversity.

Hot peppers may improve your LPS Biosynthesis Pathways score.
Learn more…

1. *https://pubmed.ncbi.nlm.nih.gov/12531428/*

Jerusalem Artichoke

Vegetables
1 cup

Superfood

My Microbiome's Response to Jerusalem Artichoke

Jerusalem artichoke contains inulin which is a prebiotic fiber. After analyzing your gene expression and taking your data into account, it has been determined that jerusalem artichoke in your diet will be optimal for you. Inulin is converted by your microbiome to produce butyrate. It has been reported that inulin increases microbial diversity, prevents constipation, helps manage weight, regulates blood sugar and aids with gastrointestinal distress.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to jerusalem artichoke.

Jerusalem artichoke may improve your Butyrate Production Pathways score.
Learn more…

1. *https://www.ncbi.nlm.nih.gov/pubmed/29244718*
2. *https://www.ncbi.nlm.nih.gov/pubmed/28213610*
3. *https://www.ncbi.nlm.nih.gov/pubmed/29507837*

Kale

Vegetables
1 cup

Superfood

My Microbiome's Response to Kale

Kale contains magnesium which is a mineral. After an interpretation of your gene expression and taking your questionnaire data into account, it has been determined that kale in your diet will be optimal for you. Magnesium is great for your microbiome - it can increase the abundance of Bifidobacterium species. These microbes help digest fiber, which produces butyrate, a short-chain fatty acid that balances inflammation. Some Bifidobacteria further promote the release of nutrients like magnesium from dietary sources. It has been reported that magnesium decreases inflammation, protects your heart, and is an essential cofactor for many different enzymes.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to kale.
Learn more...

1. *https://www.ncbi.nlm.nih.gov/pubmed/21609904*
2. *https://www.ncbi.nlm.nih.gov/pubmed/24290571*
3. *https://www.ncbi.nlm.nih.gov/pubmed/20089787*

Lamb

Proteins & Fats
2 1/2 ounces

Superfood

My Microbiome's Response to Lamb

Lamb contains cobalamin which is a B vitamin. After an analysis of your gene expression and taking your questionnaire data into account, it has been determined that lamb in your diet will be optimal for you. Cobalamin is transformed by your microbiome and also produced by specific microbes. Cobalamin is extremely important in energy production and nerve health.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to lamb.

Learn more…

1. *https://www.ncbi.nlm.nih.gov/pubmed/15896807*
2. *https://www.ncbi.nlm.nih.gov/pubmed/28393285*
3. *https://www.ncbi.nlm.nih.gov/pubmed/25440056*

Lime

Fruits & Grains
1 whole, juiced

Superfood

My Microbiome's Response to Lime

Lime contains flavonoids which are a class of polyphenols. After analyzing your gene expression and taking your questionnaire data into account, it has been determined that lime in your diet will be helpful for you. Polyphenols are a complex group of many compounds released following microbial metabolism. Polyphenols balance your microbiome, encourage growth of beneficial Lactobacillus and Bifidobacteria species and inhibit growth of harmful or pathogenic bacteria. It has been reported that polyphenols decrease inflammation and benefit many biological systems including the gastrointestinal, hormonal, neurological, ocular, and immune systems.

Lime may improve your Uric Acid Production Pathways score.

Learn more…

1. *https://onlinelibrary.wiley.com/doi/full/10.1002/fft2.27*
2. *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6723425/*

Oats

Fruits & Grains
1/2 cup, cooked

Superfood

My Microbiome's Response to Oats

Oats contain beta-glucan which is a fiber. After an interpretation of your gene expression and taking your questionnaire data into account, it has been determined that oats in your diet will be good for you. Fiber is converted by your microbiome to produce butyrate. It has been reported that fiber increases microbial diversity, prevents constipation, helps manage weight, regulates blood sugar and aids with gastrointestinal distress.

Oats may improve your Bile Acid Metabolism Pathways score.
Learn more…

1. *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6892284/*

Olive Oil

Proteins & Fats
1 tablespoon

Superfood

My Microbiome's Response to Olive Oil

Olive oil contains essential fatty acids which are a class of unsaturated fatty acids. After analyzing your gene expression and taking your wellness goals into account, it has been determined that olive oil in your diet will be helpful for you. Essential fatty acids are critical for a stable microbiome. They increase microbial diversity and beneficial butyrate-producing bacteria. Butyrate is anti-inflammatory and promotes a strong gut lining by tightening the junctions between cells. Research shows that essential fatty acids nourish your brain, enhance gut health and decrease inflammation.
Learn more…

1. *https://www.ncbi.nlm.nih.gov/pubmed/24454759*

2. *https://www.ncbi.nlm.nih.gov/pubmed/29215589*

Papaya

Fruits & Grains
1 cup, sliced

Superfood

My Microbiome's Response to Papaya

Papaya contains vitamin E which is a fat-soluble vitamin. After an analysis of your gene expression and taking your data into account, it has been determined that papaya in your diet will be beneficial for you. Vitamin E keeps your microbiome balanced. Vitamin E promotes gut barrier strength, prevents dysbiosis, alters immune responses, and decreases inflammation. Research shows that your microbiota transforms vitamin E into different isomers, each with its own health benefits. Some of these benefits include neuronal protection, enhanced athletic performance and better cardiovascular fitness.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to papaya.
Learn more…

1. *https://www.ncbi.nlm.nih.gov/pubmed/15061748*
2. *https://www.ncbi.nlm.nih.gov/pubmed/25177163*

Pineapple

Fruits & Grains
1 cup

Superfood

My Microbiome's Response to Pineapple

Pineapple contains bromelain which is a proteolytic enzyme. After an analysis of your gene expression and taking your wellness goals into account, it has been determined that pineapple in your diet will be good for you. Bromelain helps breakdown proteins into amino acids.

Pineapple may improve your LPS Biosynthesis Pathways score.
Learn more…

1. *http://www.tandfonline.com/doi/full/10.1080/08820130802083622*

Salmon (Wild-Caught)

Proteins & Fats
3 ounces

Superfood

My Microbiome's Response to Salmon (Wild-Caught)

Salmon contains essential fatty acids which are a class of unsaturated fatty acids. After analyzing your gene expression and taking your data into account, it has been determined that salmon in your diet will be of benefit for you. Essential fatty acids are critical for a stable microbiome. They increase microbial diversity and beneficial butyrate-producing bacteria. Butyrate is anti-inflammatory and promotes a strong gut lining by tightening the junctions between cells. Studies indicate that essential fatty acids nourish your brain, enhance gut health and decrease inflammation.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to salmon.
Learn more…

1. *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4646500/*

Sauerkraut

Vegetables
1 cup

Superfood

My Microbiome's Response to Sauerkraut

Sauerkraut contains probiotics which are beneficial microbes. After an interpretation of your gene expression and taking your wellness goals into account, it has been determined that sauerkraut in your diet will be beneficial for you. Probiotics restore and promote diversity and balance in your microbiome. This helps to decrease and prevent inflammation, manage symptoms of gastrointestinal distress, promote regularity, and balance your immune responses. A diverse microbiome also optimizes conversion of dietary nutrients to enhance your health.
Learn more…

1. *https://www.ncbi.nlm.nih.gov/pubmed/23320049*

2. *https://www.hindawi.com/journals/jfq/2017/5123572/*

Strawberry

Fruits & Grains

1 cup

Superfood

My Microbiome's Response to Strawberry

Strawberries contain Vitamin C which is a water-soluble vitamin. After an interpretation of your gene expression and taking your questionnaire data into account, it has been determined that strawberries in your diet will be of benefit for you. Vitamin C impacts the activity, enzyme production, immune system regulation and nutrient absorption which are just some of the responsibilities of your gut microbiome. Research shows that Vitamin C affects the function of Bifidobacterium and Clostridium species. Vitamin C is a powerful antioxidant, can protect against cardiovascular disease, boost immunity, promote nutrient utilization and help fight vision loss.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to strawberries.

Strawberries may improve your Uric Acid Production Pathways score.
Learn more...

1. *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6723425/*

2. *https://rrtjournal.biomedcentral.com/articles/10.1186/s41100-018-0195-2*

Sunflower Seeds

Proteins & Fats

2 tablespoons

Superfood

My Microbiome's Response to Sunflower Seeds

Sunflower seeds contain Vitamin B1 (Thiamine) which is a B vitamin. After an interpretation of your gene expression and taking your questionnaire data into account, it has been determined that sunflower seeds in your diet will be of benefit for you. The body cannot synthesize Vitamin B1 (Thiamine) on its own. Vitamin B1 (Thiamine) comes from two sources: your diet or your microbiome. A small amount of dietary Vitamin B1 (Thiamine) is absorbed in the small intestine but the majority comes from phosphorylation and dephosphorylation processes. Your gut microbes use thiamine to produce more Vitamin B1 (Thiamine). Research shows that Vitamin B1 (Thiamine) is a co-factor for many biological functions such as neurological stability and cardiovascular health.
Learn more…

1. *https://www.ncbi.nlm.nih.gov/pubmed/18642074*
2. *https://www.ncbi.nlm.nih.gov/pubmed/28951891*

Tarragon

Herbs, Spices & Other
1/4 teaspoon

Superfood

My Microbiome's Response to Tarragon

Tarragon contains apigenin which is a bioflavonoid. After analyzing your gene expression and taking your questionnaire data into account, it has been determined that tarragon in your diet will be helpful for you. Your microbiome plays an important role in breaking down bioflavonoids. Studies indicate that apigenin influences the diversity of your microbiome by increasing the activity of Enterococcus species and their ability to participate in DNA repair and modulation of the stress and immune responses.
Learn more…

1. *https://www.ncbi.nlm.nih.gov/pubmed/22975493/*
2. *https://www.ncbi.nlm.nih.gov/pubmed/28771188*

Tomato

Vegetables
1 cup, peeled, seeded

Superfood

My Microbiome's Response to Tomato

Tomatoes contain alpha-lipoic acid which is a antioxidant. After an analysis of your gene expression and taking your data into account, it has been determined that tomatoes in your diet will be helpful for you. Alpha-lipoic acid (ALA) is essential for energy production and can also act as antioxidant. ALA's role in energy production involves being a critical cofactor for mitochondrial energy production enzymes such as pyruvate dehydrogenase (PDH), alpha-ketoglutarate dehydrogenase (alpha-KGDH), and branched-chain ketoacid dehydrogenase (BCKDC).

Tomatoes may improve your Energy Production Pathways and Mitochondrial Health scores.
Learn more…

1. *https://academic.oup.com/biomedgerontology/article/61/7/650/822618*

2. *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3600316/*

Turkey (White Meat)

Proteins & Fats
3 ounces

Superfood

My Microbiome's Response to Turkey (White Meat)

White turkey meat contains tryptophan which is an amino acid. After an interpretation of your gene expression and taking your data into account, it has been determined that white turkey meat in your diet will be optimal for you. Your microbes are capable of producing some tryptophan, but they also use it to make a large number of compounds including neurotransmitters like serotonin and indole-3-propionate which is anti-inflammatory and promotes brain health. Adding tryptophan-rich foods makes sure you are getting enough of it everyday.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to white turkey meat.
Learn more…

1. https://www.ncbi.nlm.nih.gov/pubmed/27428201
2. https://www.ncbi.nlm.nih.gov/pubmed/27934652
3. https://www.ncbi.nlm.nih.gov/pubmed/29941795
4. https://www.ncbi.nlm.nih.gov/pubmed/29686603

Watercress

Vegetables
1 cup

Superfood

My Microbiome's Response to Watercress

Watercress contains nitrate which is a beneficial nutrient. After analyzing your gene expression and taking your wellness goals into account, it has been determined that watercress in your diet will be of benefit for you. Nitrate feeds your gut microbiota, mainly Bifidobacterium and Lactobacillus species, allowing them to produce nitric oxide. Nitric oxide is anti-inflammatory, maintains the integrity of your gut lining, and can stimulate blood flow to your GI tract. Studies indicate that it also has effects outside of the gastrointestinal tract and can help balance hormones and blood vessel health.

Learn more…

1. https://www.ncbi.nlm.nih.gov/pubmed/15722114
2. https://www.ncbi.nlm.nih.gov/pubmed/19007429
3. https://www.ncbi.nlm.nih.gov/pubmed/25803049

White Mushroom

Vegetables

Superfood

1 cup, diced

My Microbiome's Response to White Mushroom

White mushrooms contain beta-glucan which is a fiber. After an analysis of your gene expression and taking your questionnaire data into account, it has been determined that white mushrooms in your diet will be of benefit for you. Fiber is converted by your microbiome to produce butyrate. It has been reported that fiber increases microbial diversity, prevents constipation, helps manage weight, regulates blood sugar and aids with gastrointestinal distress.

White mushrooms may improve your Bile Acid Metabolism Pathways, Immune System Activation, and Immune System Health scores.
Learn more…

1. *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6892284/*

My Foods to Avoid

We recommend you avoid these foods

These are commonly known foods that will not benefit your overall wellness.

Alfalfa Sprouts

Vegetables

Avoid

My Microbiome's Response to Alfalfa Sprouts

An analysis of your data indicates that alfalfa sprouts can be unfavorable to your microbiome and your gut integrity and function.

Avoiding alfalfa sprouts may improve your Immune System Activation and Immune System Health scores.
Learn more…

1. *https://onlinelibrary.wiley.com/doi/full/10.1111/1541-4337.12010*

2. *https://wwwnc.cdc.gov/eid/article/5/5/99-0503_article*

Beef (Fatty, Grass-Fed)

Proteins & Fats

Avoid

My Microbiome's Response to Beef (Fatty, Grass-Fed)

Fatty beef contains carnitine that can be used by your microbes to produce TMA, a precursor to TMAO. TMAO is associated with unwanted metabolic and cardiovascular effects.

Avoiding fatty beef may improve your Methane Gas Production Pathways and TMA Production Pathways scores.

Learn more…

1. *https://pubmed.ncbi.nlm.nih.gov/23563705/*

Beef (Lean, Grass-Fed)

Proteins & Fats

Avoid

My Microbiome's Response to Beef (Lean, Grass-Fed)

Lean beef contains carnitine that can be used by your microbes to produce TMA, a precursor to TMAO. TMAO is associated with unwanted metabolic and cardiovascular effects.

Avoiding lean beef may improve your Methane Gas Production Pathways and TMA Production Pathways scores.

Learn more…

1. *https://pubmed.ncbi.nlm.nih.gov/23563705/*

Bell Pepper

Vegetables

Avoid

My Microbiome's Response to Bell Pepper

Your microbiome contains pepper mild mottle virus, which is known to infect bell pepper. Since plant viruses in the microbiome have been associated with an inflammatory response, it is recommended for you to avoid bell pepper.

Avoiding bell pepper may improve your Oxalate Metabolism Pathways score.

Learn more…

1. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6435874/

2. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4405218/

Black Tea

Herbs, Spices & Other

Avoid

My Microbiome's Response to Black Tea

Black tea contains caffeine which is known to increase your stress hormones. The stress hormones, adrenaline and cortisol, can have a negative impact on your microbiome by decreasing beneficial bacteria such as Lactobacilli strains, and promoting the growth of harmful microbes and increasing inflammation in the gut. An analysis of your data indicates that you would benefit from avoiding foods such as black tea that will increase your stress response.

Learn more…

1. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6230475/

2. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2257922/

Coffee

Herbs, Spices & Other

Avoid

My Microbiome's Response to Coffee

Coffee contains caffeine which is known to increase your stress hormones. The stress hormones, adrenaline and cortisol, can have a negative impact on your microbiome by decreasing beneficial bacteria such as Lactobacilli strains, and promoting the growth of harmful microbes and increasing inflammation in the gut. An analysis of your data indicates that you would benefit from avoiding foods such as coffee that will increase your stress response.

Learn more…

1. *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6230475/*
2. *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2257922/*

Crab (Pacific)

Proteins & Fats

Avoid

My Microbiome's Response to Crab (Pacific)

Crab meat is high in purines. Purines are uric-acid-production-promoting compounds. High microbial production of uric acid can contribute to gout. An analysis of your data indicates that avoiding crab meat will be beneficial for you.

Avoiding crab meat may improve your Uric Acid Production Pathways score.

Learn more…

1. *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5512149*

Goat

Proteins & Fats

Avoid

My Microbiome's Response to Goat

Goat meat is high in purines. Purines are uric-acid-production-promoting compounds. High microbial production of uric acid can contribute to gout. An analysis of your data indicates that avoiding goat meat will be beneficial for you.

Avoiding goat meat may improve your Uric Acid Production Pathways score.
Learn more…

1. *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5512149*

Haddock
Proteins & Fats

Avoid

My Microbiome's Response to Haddock

Haddock is high in purines. Purines are uric-acid-production-promoting compounds. High microbial production of uric acid can contribute to gout. An analysis of your data indicates that avoiding haddock will be beneficial for you.

Avoiding haddock may improve your Uric Acid Production Pathways score.
Learn more…

1. *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5512149*

Mung Bean Sprouts
Vegetables

Avoid

My Microbiome's Response to Mung Bean Sprouts

An analysis of your data indicates that mung bean sprouts can be unfavorable to your microbiome and your gut integrity and function.

Avoiding mung bean sprouts may improve your Immune System Activation and Immune System Health scores.

Learn more…

1. *https://onlinelibrary.wiley.com/doi/full/10.1111/1541-4337.12010*
2. *https://wwwnc.cdc.gov/eid/article/5/5/99-0503_article*

Shrimp (Domestic)

Proteins & Fats

Avoid

My Microbiome's Response to Shrimp (Domestic)

Shrimp may contain arginine that your microbiome can potentially change into a more readily absorbed or harmful form. An analysis of your data indicates that avoiding foods with arginine will be of extra benefit for you.

Avoiding shrimp may improve your Methane Gas Production Pathways, Putrescine Production Pathways, and TMA Production Pathways scores.

Learn more…

1. *https://www.tandfonline.com/doi/full/10.1080/19490976.2018.1494466*

Spinach

Vegetables

Avoid

My Microbiome's Response to Spinach

Spinach contains high levels of oxalates and purines.

Avoiding spinach may improve your Oxalate Metabolism Pathways and Uric Acid Production Pathways scores.

Learn more…

1. *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5512149*
2. *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5300851/*

Trout (Cold Water)

Proteins & Fats

Avoid

My Microbiome's Response to Trout (Cold Water)

Trout is high in purines. Purines are uric-acid-production-promoting compounds. High microbial production of uric acid can contribute to gout. An analysis of your data indicates that avoiding trout will be beneficial for you.

Avoiding trout may improve your Uric Acid Production Pathways score.

Learn more…

1. *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5512149*

Turmeric

Herbs, Spices & Other

Avoid

My Microbiome's Response to Turmeric

Turmeric stimulates the production and release of cholic acid, a bile acid important in the digestion of fats. However, if your microbes show increased bile acid related activity then excesive cholic acid may contribute to a pro-inflammatory enviroment in the gut.

Avoiding turmeric may improve your Bile Acid Metabolism Pathways score.
Learn more…

1. *https://pubmed.ncbi.nlm.nih.gov/27228476/*
2. *https://pubmed.ncbi.nlm.nih.gov/24045793/*

Watermelon

Fruits & Grains

Avoid

My Microbiome's Response to Watermelon

Watermelon may contain citrulline that your microbiome can potentially change into a more readily absorbed or harmful form. An analysis of your data indicates that avoiding foods with citrulline will be of extra benefit for you.

Avoiding watermelon may improve your Putrescine Production Pathways score.
Learn more…

1. *https://journals.ashs.org/hortsci/view/journals/hortsci/46/12/article-p1572.xml*
2. *https://pubag.nal.usda.gov/download/48884/PDF*

My Foods

Vegetables 9 per day

We recommend you break your daily Vegetables intake by the following servings

Superfood + ●●●●●●●●
Enjoy 8
Minimize 1 ●

Artichoke Vegetables 1 cup, diced — Superfood	Arugula Vegetables 1 cup — Superfood
Asparagus Vegetables 15 spears — Superfood	Bamboo Shoots Vegetables 1 cup, sliced — Enjoy
Beet Greens Vegetables 1 cup — Minimize	Beets Vegetables 1 cup — Minimize
Bok Choy Vegetables 1 cup — Enjoy	Broccoli Vegetables 1 cup — Superfood
Brussels Sprouts Vegetables 1 cup — Enjoy	Burdock Root Vegetables 2/3 cup — Enjoy

Test Name: Gut Intelligence Test, Human Gene Expression Test

Customer Name: Nicholas Perry

DOB: 05/01/1987

Cabbage	Vegetables	1 cup	Enjoy
Cardoon	Vegetables	1 cup	Enjoy
Carrot	Vegetables	1 cup, sliced	Enjoy
Cauliflower	Vegetables	1 cup	Enjoy
Celeriac	Vegetables	1 cup	Enjoy
Celery	Vegetables	1 cup	Enjoy
Chard	Vegetables	1 cup	Minimize
Chayote Squash	Vegetables	1 cup, cooked	Enjoy
Chicory Root	Vegetables	1/2 cup	Minimize
Collard Greens	Vegetables	1 cup	Minimize
Cucumber	Vegetables	1 cup	Enjoy
Dandelion Greens	Vegetables	1 cup	Minimize
Eggplant	Vegetables	1 cup	Enjoy
Endive	Vegetables	1 cup	Enjoy
Escarole	Vegetables	1 cup	Enjoy
Fennel Bulb	Vegetables	1 cup	Enjoy

Test Name: Gut Intelligence Test, Human Gene Expression Test

Customer Name: Nicholas Perry

DOB: 05/01/1987

Gourd	Vegetables	1 cup, sliced	Enjoy
Green Beans	Vegetables	1 cup	Minimize
Jerusalem Artichoke	Vegetables	1 cup	Superfood
Jicama	Vegetables	1 cup	Enjoy
Kale	Vegetables	1 cup	Superfood
Kimchi	Vegetables	1 cup	Enjoy
Kohlrabi	Vegetables	1 cup	Enjoy
Leek	Vegetables	1/2 cup, sliced	Minimize
Lettuce	Vegetables	1 cup	Enjoy
Mustard Greens	Vegetables	1 cup	Minimize
Okra	Vegetables	1 cup	Minimize
Onion	Vegetables	1 cup	Enjoy
Parsley	Vegetables	1 cup	Minimize
Parsnip	Vegetables	1/2 cup	Enjoy
Peas	Vegetables	1/4 cup	Enjoy
Pepino Melon	Vegetables	1 cup	Enjoy

Pickle (Unsweetened) Vegetables 2 whole — Enjoy	Potato Vegetables 1 half — Minimize
Pumpkin Vegetables 1 cup — Enjoy	Radicchio Vegetables 1 cup, sliced — Enjoy
Radish Vegetables 1 cup, sliced — Enjoy	Radish Sprouts Vegetables 1 cup — Enjoy
Rutabaga Vegetables 1 cup, sliced — Minimize	Sauerkraut Vegetables 1 cup — Superfood
Seaweed (Fresh) Vegetables 1/4 cup — Minimize	Shallot Vegetables 1 tablespoon — Enjoy
Snap Peas Vegetables 1 cup — Enjoy	Spirulina Vegetables 2 teaspoon — Enjoy
Sweet Potato or Yam Vegetables 1/2 cup — Minimize	Taro Vegetables 1/2 cup — Enjoy
Tomato Vegetables 1 cup, peeled, seeded — Superfood	Turnip Vegetables 1 cup — Enjoy

Water Chestnuts Vegetables 1/2 cup Enjoy	Watercress Vegetables 1 cup Superfood
White Mushroom Vegetables 1 cup, diced Superfood	Winter Squash Vegetables 1/4 cup, cooked Minimize
Yellow Squash Vegetables 1 cup, cooked Enjoy	Zucchini Vegetables 1 cup, cooked Minimize

My Foods

Proteins & Fats 10 per day

We recommend you break your daily Proteins & Fats intake by the following servings

Superfood + ●●●●●●●●

Enjoy 8

Minimize 2 ●●

Abalone Proteins & Fats 3 ounces — Enjoy	Adzuki Beans Proteins & Fats 1 cup, cooked — Minimize
Almond Milk (Unsweetened) Proteins & Fats 1 cup — Enjoy	Almonds Proteins & Fats 20 nuts — Minimize
Anchovies Proteins & Fats 3 ounces — Enjoy	Avocado Proteins & Fats 1 half — Superfood
Avocado Oil Proteins & Fats 1 tablespoon — Enjoy	Black Beans Proteins & Fats 3/4 cup, cooked — Superfood
Black Eyed Peas Proteins & Fats 3/4 cup, cooked — Enjoy	Bone Broth (Fish) Proteins & Fats 1 cup — Enjoy

Test Name: Gut Intelligence Test, Human Gene Expression Test

Customer Name: Nicholas Perry

DOB: 05/01/1987

Bone Broth (Mammal) Proteins & Fats 1 cup — Enjoy	Bone Broth (Poultry) Proteins & Fats 1 cup — Enjoy
Brazil Nuts Proteins & Fats 5 nuts — Enjoy	Buffalo Proteins & Fats 3 1/2 ounces — Enjoy
Butter (Cow Milk) Proteins & Fats 1 teaspoon — Enjoy	Cashews Proteins & Fats 15 nuts — Enjoy
Catfish Proteins & Fats 2 1/2 ounces — Enjoy	Caviar or Roe Proteins & Fats 2 ounces — Enjoy
Cheese (Cow Milk) Proteins & Fats 1 ounce — Minimize	Chestnuts Proteins & Fats 3 ounces — Enjoy
Chia Seeds Proteins & Fats 1 ounce, dry — Enjoy	Chicken (Dark Meat) Proteins & Fats 2 1/2 ounces — Enjoy
Chicken (White Meat) Proteins & Fats 3 ounces — Enjoy	Chickpeas Proteins & Fats 1/2 cup, cooked — Enjoy
Clams Proteins & Fats 3 ounces — Enjoy	Coconut Meat Proteins & Fats 1 1/2 ounces — Superfood

Test Name: Gut Intelligence Test, Human Gene Expression Test

Customer Name: Nicholas Perry

DOB: 05/01/1987

Coconut Milk (Unsweetened) Proteins & Fats 1/4 cup — Enjoy	Coconut Oil Proteins & Fats 1 tablespoon — Enjoy
Cod (Alaskan) Proteins & Fats 6 ounces — Enjoy	Cornish Game Hen Proteins & Fats 1 half — Enjoy
Crayfish Proteins & Fats 6 ounces — Enjoy	Duck Proteins & Fats 1 1/2 ounces — Enjoy
Eel Proteins & Fats 3 ounces — Enjoy	Egg Whites (Chicken) Proteins & Fats 3 eggs — Enjoy
Egg Yolk (Chicken) Proteins & Fats 3 eggs — Minimize	Emu Proteins & Fats 4 ounces — Enjoy
Fava Beans Proteins & Fats 1/2 cup, cooked — Enjoy	Flax Oil Proteins & Fats 1 tablespoon — Enjoy
Flax Seeds Proteins & Fats 2 tablespoons — Enjoy	Ghee Proteins & Fats 1 teaspoon — Enjoy
Goat Cheese Proteins & Fats 1 ounce — Enjoy	Goat Milk Proteins & Fats 1/2 cup — Enjoy

Goose Proteins & Fats 3 ounces Enjoy	Grape Seed Oil Proteins & Fats 1 tablespoon Enjoy
Halibut (Pacific) Proteins & Fats 5 ounces Minimize	Hazelnuts Proteins & Fats 15 nuts Superfood
Heavy Cream (Cow Milk) Proteins & Fats 2 tablespoons Minimize	Hemp Hearts Proteins & Fats 3 tablespoons Enjoy
Herring Proteins & Fats 3 ounces Enjoy	Hickory Nuts Proteins & Fats 15 nuts Enjoy
Kefir (Cow Milk) Proteins & Fats 1/2 cup Minimize	Kidney Beans Proteins & Fats 3/4 cup, cooked Minimize
Lamb Proteins & Fats 2 1/2 ounces Superfood	Lentils Proteins & Fats 4 ounces, cooked Minimize
Lima Beans Proteins & Fats 1/2 cup, cooked Minimize	Lobster Proteins & Fats 6 ounces Enjoy
Lotus Seeds Proteins & Fats 4 ounces Enjoy	MCT Oil Proteins & Fats 1 tablespoon Enjoy

Macadamia Nuts Proteins & Fats 10 nuts	Enjoy	Mackerel Proteins & Fats 3 ounces	Enjoy
Mussels Proteins & Fats 3 ounces	Enjoy	Natto Proteins & Fats 2 1/2 ounces	Enjoy
Navy Beans Proteins & Fats 1/2 cup, cooked	Enjoy	Olive Oil Proteins & Fats 1 tablespoon	Superfood
Olives Proteins & Fats 20 olives	Minimize	Ostrich Proteins & Fats 4 ounces	Enjoy
Oysters Proteins & Fats 3 ounces	Enjoy	Peanuts Proteins & Fats 20 peanuts	Minimize
Pecans Proteins & Fats 15 nuts	Minimize	Perch Proteins & Fats 5 ounces	Enjoy
Pheasant Proteins & Fats 4 ounces	Enjoy	Pine Nuts Proteins & Fats 1 1/2 tablespoons	Enjoy
Pinto Beans Proteins & Fats 3/4 cup, cooked	Enjoy	Pistachios Proteins & Fats 35 nuts	Minimize

Pork (Lean)
Proteins & Fats
1 ounce
Minimize

Pumpkin Seeds
Proteins & Fats
2 teaspoons
Enjoy

Quail
Proteins & Fats
2 1/2 ounces
Enjoy

Ricotta or Cottage Cheese (cow, 2% fat)
Proteins & Fats
3 ounces
Minimize

Safflower Oil
Proteins & Fats
1 tablespoon
Enjoy

Salmon (Wild-Caught)
Proteins & Fats
3 ounces
Superfood

Sardines
Proteins & Fats
2 ounces
Enjoy

Scallops
Proteins & Fats
5 ounces
Minimize

Sesame Seeds
Proteins & Fats
3 tablespoons
Minimize

Sheep Cheese
Proteins & Fats
1 ounce
Enjoy

Sheep Milk
Proteins & Fats
1/4 cup
Enjoy

Soy Milk (Unsweetened)
Proteins & Fats
1 cup
Enjoy

Soybeans (non-GMO)
Proteins & Fats
1/2 cup
Enjoy

Squid
Proteins & Fats
3 ounces
Enjoy

Sunflower Seeds
Proteins & Fats
2 tablespoons
Superfood

Tempeh
Proteins & Fats
1/2 cup
Enjoy

Tofu Proteins & Fats 3/4 cup — Enjoy	Tuna (Wild, Pole Caught) Proteins & Fats 5 ounces — Minimize
Turbot Proteins & Fats 5 ounces — Enjoy	Turkey (Dark Meat) Proteins & Fats 2 1/2 ounces — Enjoy
Turkey (White Meat) Proteins & Fats 3 ounces — Superfood	Veal Proteins & Fats 1 1/2 ounces — Enjoy
Venison or Elk Proteins & Fats 3 1/2 ounces — Enjoy	Walnuts Proteins & Fats 12 nuts — Minimize
Whole Milk (Cow Milk) Proteins & Fats 1/2 cup — Minimize	Yogurt (Cow Milk, Plain) Proteins & Fats 1/2 cup — Minimize

My Foods

Fruits & Grains 5 per day

We recommend you break your daily Fruits & Grains intake by the following servings

Superfood + ●●●●

Enjoy 4

Minimize 1 ●

Amaranth Fruits & Grains 1/2 cup, cooked — Minimize	Apple Fruits & Grains 1 whole — Enjoy
Apricot Fruits & Grains 3 whole — Enjoy	Banana Fruits & Grains 1 whole — Superfood
Barley Fruits & Grains 3 ounces, cooked — Enjoy	Blackberry Fruits & Grains 1 cup — Enjoy
Blueberry Fruits & Grains 1 cup — Enjoy	Boysenberry Fruits & Grains 1 cup — Enjoy
Breadfruit Fruits & Grains 1 cup, sliced — Minimize	Brown Rice Fruits & Grains 1/2 cup, cooked — Enjoy

Buckwheat Fruits & Grains 1/2 cup, cooked Minimize	Bulgur Fruits & Grains 1/2 cup, cooked Enjoy
Cantaloupe Fruits & Grains 1 cup, diced Enjoy	Cassava Fruits & Grains 1/2 cup, sliced Minimize
Cherry Fruits & Grains 1 cup Enjoy	Corn Fruits & Grains 1/2 cup Enjoy
Couscous Fruits & Grains 1/2 cup, cooked Minimize	Cranberry Fruits & Grains 1/2 cup Enjoy
Currant Fruits & Grains 1 cup Minimize	Dates Fruits & Grains 2 whole Minimize
Dragon Fruit Fruits & Grains 1 cup, diced Enjoy	Elderberry (Boiled) Fruits & Grains 1 cup Minimize
Fig Fruits & Grains 2 whole Minimize	Goji Berry Fruits & Grains 1/2 cup Minimize
Gooseberry Fruits & Grains 1 cup Minimize	Grapefruit Fruits & Grains 1 whole Enjoy

Grapes	Fruits & Grains	1 cup	Superfood
Guava	Fruits & Grains	2 whole	Enjoy
Honeydew Melon	Fruits & Grains	1 cup, sliced	Enjoy
Huckleberry	Fruits & Grains	1 cup	Enjoy
Jackfruit	Fruits & Grains	1 cup	Minimize
Kamut	Fruits & Grains	1/2 cup, cooked	Minimize
Kiwi	Fruits & Grains	2 whole	Minimize
Kumquat	Fruits & Grains	12 whole	Enjoy
Lemon	Fruits & Grains	1 whole, juiced	Enjoy
Lime	Fruits & Grains	1 whole, juiced	Superfood
Loganberries	Fruits & Grains	1 cup	Enjoy
Lychee	Fruits & Grains	1 cup	Enjoy
Mango	Fruits & Grains	1 cup, sliced	Enjoy
Mangosteen	Fruits & Grains	1 cup, sliced	Minimize
Marionberry	Fruits & Grains	1 cup	Enjoy
Millet	Fruits & Grains	1/2 cup, cooked	Enjoy

Mulberries	Fruits & Grains	1 cup	Enjoy
Nectarine	Fruits & Grains	1 whole	Enjoy
Oats	Fruits & Grains	1/2 cup, cooked	Superfood
Orange	Fruits & Grains	1 whole	Enjoy
Papaya	Fruits & Grains	1 cup, sliced	Superfood
Passionfruit	Fruits & Grains	3/4 cup	Enjoy
Peach	Fruits & Grains	1 whole	Enjoy
Pear	Fruits & Grains	1 whole	Enjoy
Persimmon	Fruits & Grains	2 whole	Enjoy
Pineapple	Fruits & Grains	1 cup	Superfood
Plantain	Fruits & Grains	1/2 cup	Minimize
Plum	Fruits & Grains	3 whole	Enjoy
Pomegranate	Fruits & Grains	1 half	Enjoy
Prunes	Fruits & Grains	6 whole	Minimize
Pummelo	Fruits & Grains	1 half	Minimize
Quinoa	Fruits & Grains	1/2 cup, cooked	Minimize

Raspberry	Fruits & Grains	1 cup	Enjoy
Rhubarb	Fruits & Grains	1 cup, sliced	Minimize
Rice Noodles	Fruits & Grains	1/2 cup, cooked	Enjoy
Salmonberry	Fruits & Grains	1 cup	Enjoy
Sour Cherries	Fruits & Grains	1 1/3 cup	Enjoy
Sprouted Rye Bread	Fruits & Grains	1 slice	Minimize
Sprouted Wheat Bread	Fruits & Grains	1 slice	Minimize
Star Fruit	Fruits & Grains	1 cup, sliced	Minimize
Strawberry	Fruits & Grains	1 cup	Superfood
Triticale	Fruits & Grains	1/2 cup, cooked	Minimize
White Rice	Fruits & Grains	1/2 cup, cooked	Minimize
Wild Rice	Fruits & Grains	1/2 cup, cooked	Enjoy

My Foods

Herbs, Spices & Other 11 per day

We recommend you break your daily Herbs, Spices & Other intake by the following servings

Superfood +
Enjoy 9
Minimize 2

Allspice Herbs, Spices & Other 1/4 teaspoon — Enjoy	Apple Cider Vinegar Herbs, Spices & Other 1 teaspoon — Enjoy
Basil Herbs, Spices & Other 1/4 teaspoon — Enjoy	Bay Leaf Herbs, Spices & Other 1/4 teaspoon — Enjoy
Black Pepper Herbs, Spices & Other 1/4 teaspoon — Enjoy	Cane Sugar Herbs, Spices & Other 1 teaspoon — Minimize
Capers Herbs, Spices & Other 1 teaspoon — Enjoy	Caraway Seed Herbs, Spices & Other 1/4 teaspoon — Enjoy
Cardamom Herbs, Spices & Other 1/4 teaspoon — Enjoy	Carob Herbs, Spices & Other 1 tablespoon — Enjoy

Cayenne Pepper Herbs, Spices & Other 1/8 teaspoon — Enjoy	Celery Seed Herbs, Spices & Other 1/4 teaspoon — Minimize
Chervil Herbs, Spices & Other 1/4 teaspoon — Enjoy	Chili Powder Herbs, Spices & Other 1/4 teaspoon — Enjoy
Cilantro Herbs, Spices & Other 2 tablespoons — Enjoy	Cinnamon Herbs, Spices & Other 1/4 teaspoon — Superfood
Cloves Herbs, Spices & Other 1/8 teaspoon — Enjoy	Cocoa (Unsweetened) Herbs, Spices & Other 1 tablespoon — Enjoy
Coconut Water Herbs, Spices & Other 1 cup — Minimize	Coriander Herbs, Spices & Other 1/4 teaspoon — Enjoy
Cumin Herbs, Spices & Other 1/4 teaspoon — Enjoy	Dill (Fresh) Herbs, Spices & Other 2 tablespoons — Enjoy
Fennel Seed Herbs, Spices & Other 1/4 teaspoon — Enjoy	Fenugreek Seed Herbs, Spices & Other 1/4 teaspoon — Enjoy

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Garlic Herbs, Spices & Other 1 clove	Superfood	Ginger Herbs, Spices & Other 1 tablespoon	Enjoy
Grape Leaves Herbs, Spices & Other 4 leaves	Enjoy	Green Tea Herbs, Spices & Other 1 cup	Minimize
Herbal Tea Herbs, Spices & Other 1 cup	Enjoy	Honey Herbs, Spices & Other 1 teaspoon	Minimize
Horseradish Herbs, Spices & Other 1 teaspoon	Enjoy	Hot Pepper Herbs, Spices & Other 1/2 teaspoon	Superfood
Kombucha Herbs, Spices & Other 1 cup	Minimize	Mace Herbs, Spices & Other 1/8 teaspoon	Enjoy
Maple Syrup Herbs, Spices & Other 1 teaspoon	Minimize	Marjoram Herbs, Spices & Other 1/8 teaspoon	Enjoy
Miso Herbs, Spices & Other 1 teaspoon	Enjoy	Molasses Herbs, Spices & Other 1 teaspoon	Minimize

Mustard Seed Herbs, Spices & Other 1/4 teaspoon Enjoy	Nutmeg Herbs, Spices & Other 1/4 teaspoon Enjoy
Oregano Herbs, Spices & Other 1/4 teaspoon Enjoy	Paprika Herbs, Spices & Other 1/4 teaspoon Enjoy
Peppermint (Fresh) Herbs, Spices & Other 1 tablespoon Enjoy	Poppy Seed Herbs, Spices & Other 1 teaspoon Enjoy
Rice Milk (Unsweetened) Herbs, Spices & Other 3/4 cup Minimize	Rosemary (Fresh) Herbs, Spices & Other 1 teaspoon Enjoy
Saffron Herbs, Spices & Other 1/8 teaspoon Enjoy	Sage Herbs, Spices & Other 1/4 teaspoon Enjoy
Salt (Sea, Himalayan, Celtic or Bonaire) Herbs, Spices & Other 1/8 teaspoon Minimize	Savoury Herbs, Spices & Other 1/4 teaspoon Enjoy
Spearmint (Fresh) Herbs, Spices & Other 1 tablespoon Enjoy	Stevia Herbs, Spices & Other 1 package Minimize

Tarragon
Herbs, Spices & Other
1/4 teaspoon
Superfood

Vanilla Extract
Herbs, Spices & Other
1/4 teaspoon
Enjoy

Vinegar (Unsweetened)
Herbs, Spices & Other
1 teaspoon
Enjoy

Wheatgrass
Herbs, Spices & Other
2 tablespoons
Enjoy

White Tea
Herbs, Spices & Other
8 ounce
Minimize

Supplements

Look for supplements with the following ingredients:

Probiotics

Look for supplements with the following ingredients:
L.acidophilus, Bacillus coagulans, Bifidobacterium strains (longum, lactis, bifidum), and FOS

Offered by Klaire Labs , Metagenics , or other vendors.

To support the growth and activity of beneficial microorganisms and enhance the balance in your microbial ecosystem

Polyphenols with Pomegranate

Look for supplements with the following ingredients:
Pomegranate extract, acai berry extract, blueberry extract, and cranberry extract

Offered by Pure Encapsulations , Life Extension , or other vendors.

To rebalance your microbiome, promote beneficial microbial diversity while boosting antioxidant production by your unique microbiome.

Cellular and mitochondrial support

Look for supplements with the following ingredients:
Nicotinamide Riboside, Resveratrol, Quercetin, Fisetin

Offered by Life Extension , Thorne , or other vendors.

To support cellular and mitochondrial functions, such as DNA repair and protection from cellular stress and aging

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Mitochondrial support

Look for supplements with the following ingredients:

CoQ10, Omega-3

Offered by Smarter Nutrition , Nordic Naturals , or other vendors.

To support mitochondrial health and increase energy production

Prebiotic

Look for supplements with the following ingredients:

Fiber with oligofructose enriched inulin

Offered by Prebiotin , or other vendors.

To help specific microbes in your gut produce short-chain fatty acids, like butyrate, and other beneficial nutrients that can balance the microbiome or counter some of the pro-inflammatory or opportunistic activities

Viome Methodology

Microbial total RNA is extracted, ribosomal RNA molecules are removed from total RNA, and the remaining RNA molecules are sequenced on Illumina NextSeq or NovaSeq. Proprietary bioinformatics algorithms are used to perform taxonomic classification and functional analysis of the sequencing data.

Whole blood total RNA is extracted, polyadenylated transcripts are captured from total RNA and sequenced on Illumina NextSeq or NovaSeq. Proprietary bioinformatics algorithms are used to perform quantitative gene expression analysis of the sequencing data. Results are reported to Viome customers in the context of integrative functional health themes communicated as scores derived largely from proprietary pathway content and analytics methodology. Each score is built to account for molecular pathway topology and strength of literature evidence manually curated by translational science experts in systems biology. Scoring results are CLIA-validated and are end-to-end automated in the production system, which uses each customer's gene expression data as input.

Method Limitation

Viome's results and recommendations are based on our ability to identify and quantify thousands of microbial taxa . Such vast diversity has not been captured in the genomic databases, so it is impossible to assess it comprehensively. There are microorganisms that thrive in the gut whose genomes have not been sequenced. Viome is unable to identify those specific organisms, but can identify their near neighbors, which have similar homology. There are also taxa that we cannot discriminate because of their sequence similarity, for example at the strain level. There are some RNA transcripts that may not always align and match to specific known organisms, which may be due to the fact that these sequences are poorly characterized, reliable consensus sequence may not be available for reference. Viome monitors the growth of public genomic databases and will update its own databases when there is sufficient new information to be worthy of incorporation.

Detection of a microorganism by this test does not imply having a disease. Similarly, not detecting a microorganism by this test does not exclude the presence of a disease-causing microorganism. Further, other organisms may be present that are not detected by this test. This test is not a substitute for established methods for identifying microorganisms or their antimicrobial susceptibility prole. Results are qualitative and identify the presence or absence of identified annotated organisms.

Viome's results and recommendations are based on our ability to identify and quantify thousands of human transcripts. While the test has been clinically validated and shows very high precision, it also has some limitations. As the presence of transcripts nears the limits of detection, the ability of the test to accurately detect them is diminished. This is simply due to the uneven distribution of molecules in liquid volumes, causing small random changes in the transcript concentrations. Scores rely on detection of expressed genes, as well as their levels of expression against the reference population cohort. Hence, certain sample results may be affected by

any skewing or sampling biases of the reference cohort, as opposed to solely the biology of the given customer. Scores also are limited by our current understanding of actionable or biologically meaningful insights and literature coverage to date. As Viome's reference population expands and current knowledge grows, these limitations become more negligible.

The Gut Intelligence Test was developed by, and its performance characteristics determined by Viome Inc. It has not been cleared or approved by the US Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary. This laboratory is registered under CLIA (50D2224932) to perform high complexity testing. Sequencing was performed at Viome Inc. CLIA (50D2224932). Contact Viome for any further questions.

The Human Gene Expression test was developed by, and its performance characteristics determined by Viome Inc. It has not been cleared or approved by the US Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary. This laboratory is registered under CLIA 50D2224932 to perform high complexity testing. Sequencing was performed at Viome, Inc. CLIA 50D2224932. Contact Viome for any further questions.

VIOME

NICHOLAS PERRY'S RECOMMENDATIONS

VERSION: 1.14.2