SelfDecode™

Gut Microbiome Diversity

DNA Health Report

REPORT CATEGORY

GUT HEALTH

Sample Client

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Personal information

NAME

Sample Client

SEX AT BIRTH

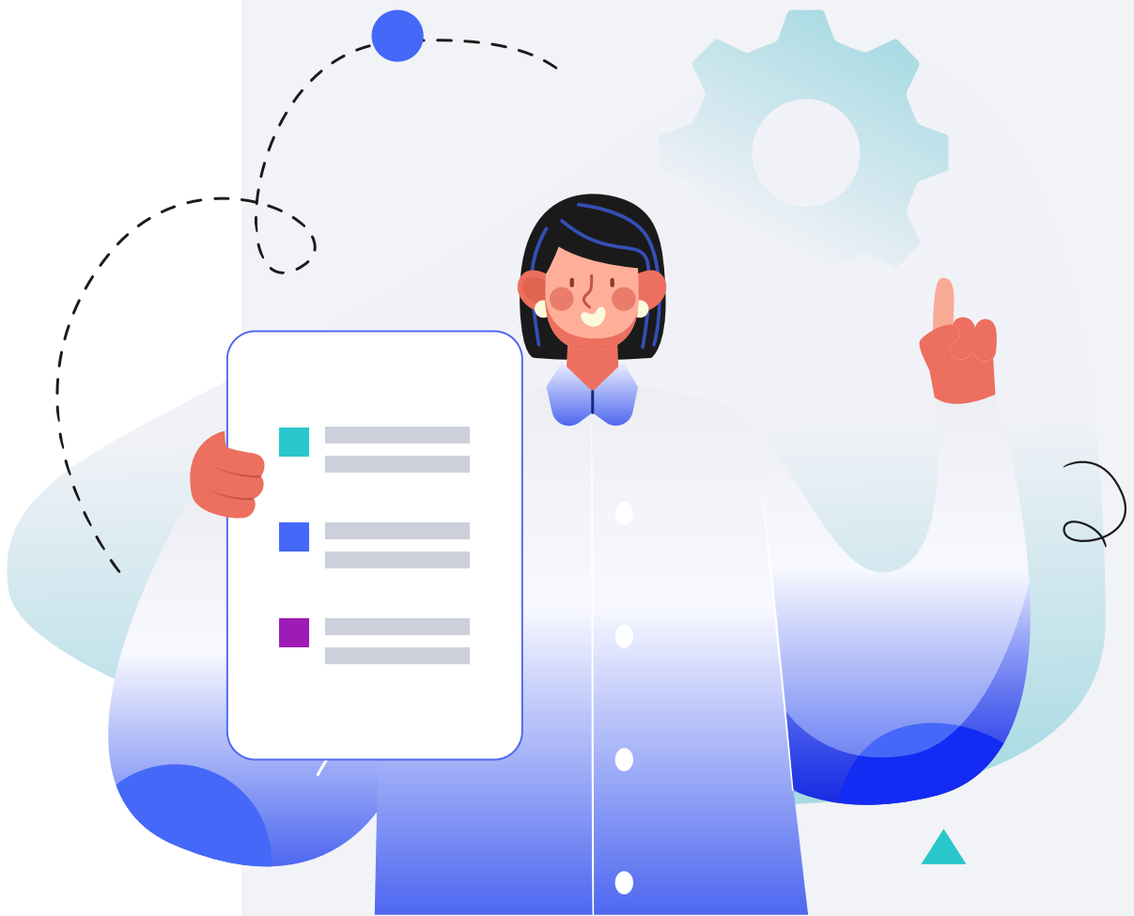
Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg

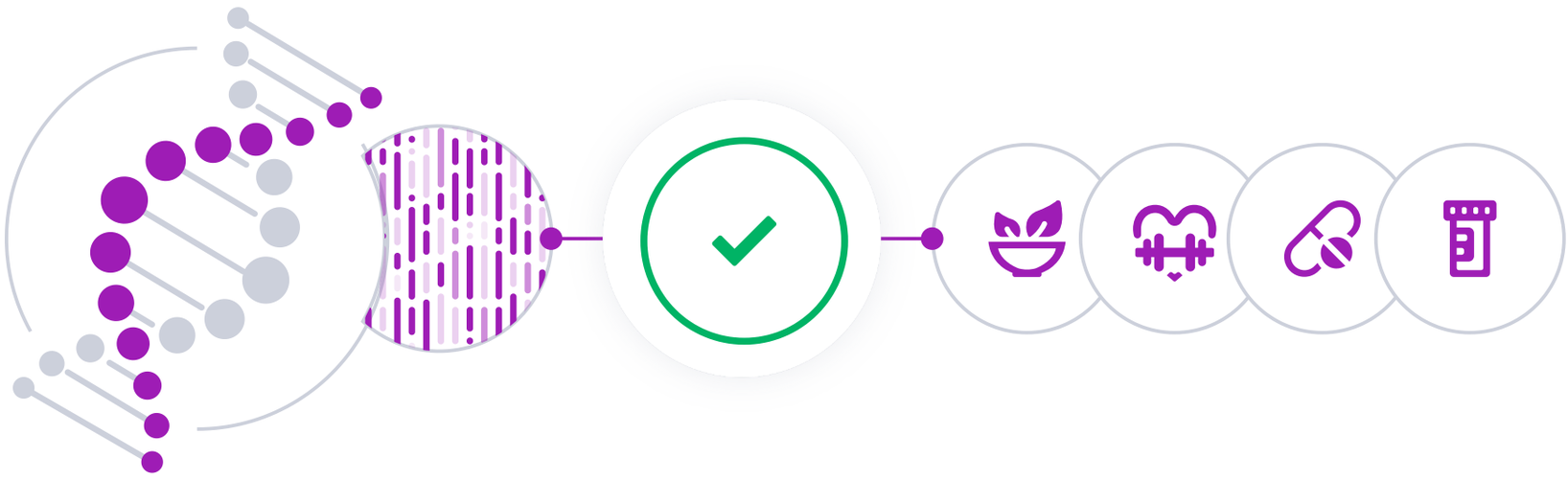


DISCLAIMER

This report does not diagnose this or any other health conditions. Please talk to a healthcare professional if this condition runs in your family, you think you might have this condition, or you have any concerns about your results.

How this works

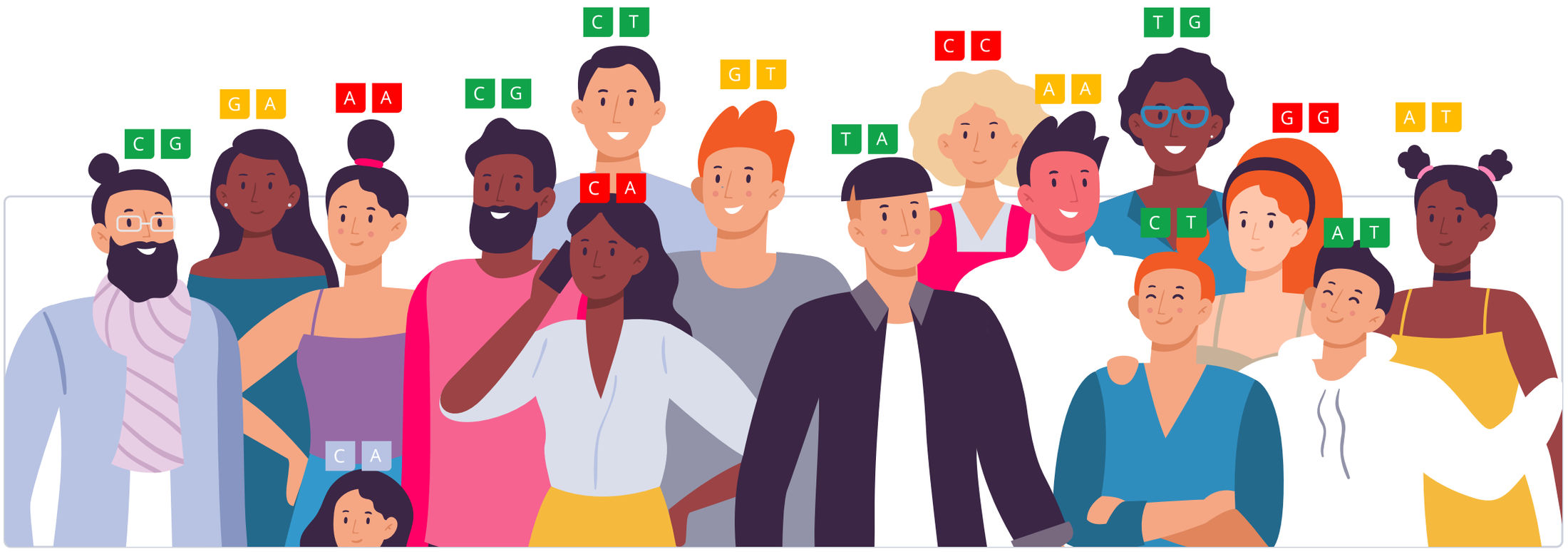
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



Similarly, our Trait Reports look at how your DNA influences your traits.

Your DNA is like an instruction manual — it contains a lot of information.
You can think of it as a blueprint for your body.

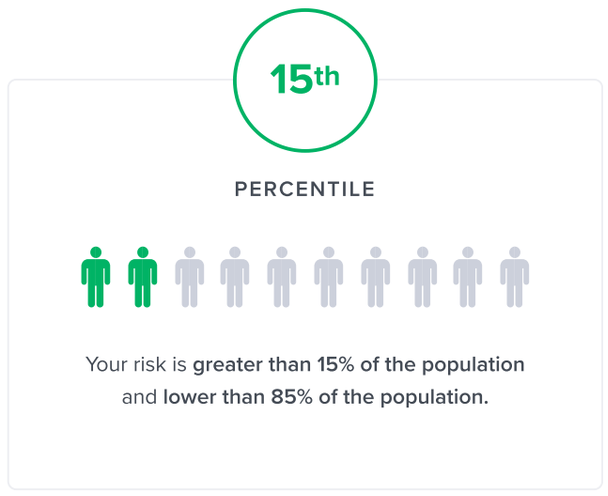
Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



We use artificial intelligence and machine learning to analyze all this information. We then summarize your results as a risk score or display it on a gauge.

When we give a risk score, the risk icon tells you if you are at a higher or lower risk compared to other people:

In total, we analyze up to 83 million genetic variants.



Genotype color info: AA You don't have any risk alleles | AA You have 1 risk allele | AA You have 2 risk alleles

Your risk is also displayed as a percentile. This will tell you how your risks compare to our sample population. The lower your percentile number, the lower your risk. The "50th percentile" would be an average risk.

Similarly, the gauge tells you your relative risk score compared to our sample population, or it indicates a specific trait or haplotype you are more likely to have based on your genetic variants.

When applicable, we also list top evidence-based recommendations that may help lower your risk. The focus is on recommendations that may be of benefit to you, based on your genetics.

Our recommendations come in four categories: lifestyle, diet, supplements and drugs.
The following icons tell you which category a recommendation falls into:

Our team of scientists also ranks each recommendation.
We rank based on impact and the strength of evidence in the medical literature.

Impact shows how strongly a recommendation will affect your health in a certain area.
Evidence is how much scientific support there is for the recommendation. Rankings are from 1 to 5 (low to high):

Impact

Impact scores range from 1-5. These scores reflect how much of an effect each recommendation can have. An impact score of 5 predicts the biggest effect.

When a recommendation affects something we can measure, we use those measurements to assign the impact score. For example, a recommendation that decreases cholesterol by 20% will have a higher impact score than one that decreases it by 5%.

Some recommendations affect things that we cannot directly measure, like stress or mood. For these, the impact score is based on how well they work relative to other recommendations and standard treatments. The best ones get the highest scores.

If there is a lot of research that shows a recommendation works especially well for your genotype, the impact score gets increased.

Recommendation Evidence

5 / 5

Recommendations that are considered effective and generally recommended by experts and medical bodies.

4 / 5

Recommendations that are considered likely effective and that have multiple independent meta-analyses and a great many studies supporting them.

3 / 5

Recommendations that are considered possibly effective and have many studies supporting them

2 / 5

Recommendations that have insufficient evidence, with two or several clinical trials supporting them, or many studies but with ambiguous results.

1 / 5

Recommendations that have insufficient evidence, with a single clinical trial, or with many studies most of which didn't find support for the recommendation.

0 / 5

No evidence in humans.

Genotype-specific Evidence

High-quality

Direct evidence that a recommendation helps more in people with your gene variant (many clinical trials, afew large clinical trials, or a meta-analysis).

Medium-quality

Direct evidence that a recommendation helps more in people with your gene variant (a few clinical trials or one large clinical trial).

Low-quality

Direct evidence that a recommendation helps more in people with your gene variant (a single clinical trial or more trials with inconsistent results).

Indirect

A recommendation may help more in people with your gene variant because it targets a specific gene or protein affected by your variant (e.g., MTHFR, dopamine).

In theory

A recommendation may help more in people with your gene variant because it targets a specific mechanism affected by your variant (e.g., inflammation, oxidative stress).

Some things to keep in mind:

- Genetics doesn’t play a considerable role in a condition or a trait.
- There is not enough research available to estimate a genetic predisposition.
- There are technical limitations to estimating or presenting a genetic predisposition.
- The topic is sensitive, and a genetic predisposition should only be estimated and presented by a healthcare professional.

Introduction

From the moment we're born, a range of friendly bacteria begin colonizing our gut, forming the "gut microbiome" [R].

This diverse community remains with us our entire life, and is composed of up to 1,000 different species of friendly bacteria beneficial to our health [R].

The gut is inhabited by around 10-100 trillion bacteria, which equates to roughly 0.2 to 1 kg of bacteria [R, R]. To put that into perspective, that's about the same weight as a pineapple or a toaster.

As the human body is made up of roughly 30 trillion cells, the microbes living in our gut may even outnumber them [R].

An unbalanced gut microbiome can be bad for your health. A less diverse microbiome has been linked to [R]:

- Obesity
- Type 2 diabetes
- Irritable bowel syndrome (IBS)
- Inflammatory bowel disease (IBD)

These bacteria might even impact how we think. We've all had a feeling in our gut that tells us something, right? Early research has suggested that there may be a link between the microbes in our gut and anxiety and depression [R, R].

Your gut microbiome can be thrown off balance by a number of different factors, including [R, R]:

- Genetics
- Age
- Diet
- Medications

Read on to find out more about:

- **How your genetics play a role in gut microbiome diversity**
- **Your genetic risk score based on over genetic variants**
- **How you can improve your microbiome health and diversity**

About the Gut Microbiome

Key Takeaways:

- Genes that affect our gut bacteria are involved in nutrition, blood type, and metabolism.
- Other risk factors for reduced gut microbiome diversity include age, diet, and certain medications.
- A lack of diversity may be linked to diabetes, obesity, mood disorders, allergic conditions, IBS, and IBD. A diverse gut microbiome may improve the immune system, cognitive abilities, and mood.
- If your genetic risk is high or believe your gut microbiome may be out of balance, take action now on factors you can change.

We share our bodies with our gut microbes. They may make us thin or fat, healthy or sick, happy or depressed. The entire community of microbes (bacteria, fungi, viruses) living in your gut is called the 'gut microbiome' [R].

Gut microbes play many beneficial roles in our bodies. They [R, R, R]:

- Help harvest more energy from food
- Provide nutrients such as vitamins B12 and K
- Strengthen the gut barrier and the immune system
- Protect from harmful microbes
- Degrade toxins and cancer-causing chemicals
- Impact our mood and cognitive ability

While in perfect harmony, the gut microbiome is beneficial to our health. Off balance, these microbes can contribute to a range of issues, including [R]:

- Gut disorders (e.g., inflammatory bowel disease)
- Mood disorders (e.g., anxiety and depression)
- Allergic conditions (e.g., eczema and asthma)

Genetics influences our microbiome composition. Genes that affect our gut bacteria are involved in [R, R, R]:

Predisposed to lower gut microbiome diversity based on 497 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
GPR158	rs71495423	CC
BRSK2	rs574686237	GG
SORCS3	rs184389714	AA
NIPSNAP3A	rs12348106	CC
NR2F2	rs6496140	TT
/	rs144477852	CC
MACF1	rs74786007	GG
AGPAT5	rs2928601	CC
CACNA1D	rs188274086	AA
/	rs139795364	AA
INHBC	rs145837154	GG
ISCA2	rs72730160	TT
CHL1	rs6442427	TT
GP2	rs73546249	CC
CCBE1	rs111870840	AA
RASEF	rs13284654	CC
NSG1	rs7693922	AA
OAT	rs74160914	GG
/	rs75113042	TT
UBR5	rs9773443	GA
FUT2	rs1047781	AA

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

- Nutrition
- Blood type
- Metabolism

Your Recommendations

Your recommendations are prioritized according to the likelihood of it having an impact for you based on your genetics, along with the amount of scientific evidence supporting the recommendation.

You'll likely find common healthy recommendations at the top of the list because they are often the most impactful and most researched.

		DOSAGE			DOSAGE
1	Prebiotics	125 mg	2	Kefir	
3	Probiotic Yogurt		4	Mediterranean Diet	
5	Probiotics	10 billion	6	Almonds	
7	Oats		8	Sleep for 7+ Hours	
9	Lactobacillus Casei	10 billion CFU	10	Berberine	500 mg
11	Saccharomyces Boulardii	10 billion CFU	12	Exercise At Least One Hour a Day	1 hour
13	Chicory		14	Aerobic Exercise (Cardio)	1 hour
15	Lactobacillus Paracasei	10 billion CFU	16	Cinnamon	500 mg
17	Chickpeas		18	Tomato	
19	Black Chokeberry		20	Pentadecanoic Acid (C15:0)	
21	Ginger	500 mg	22	Bifidobacterium Bifidum	10 billion CFU
23	Glutathione supplements		24	Prunes	
25	Lactobacillus Acidophilus	10 billion CFU	26	L. Rhamnosus HN001 and B. Longum BB536	10 billion CFU
27	Lychee Extract	100 mg	28	Chinese Rhubarb	500 mg
29	Hazelnuts		30	Pistachios	
31	Lactobacillus Acidophilus NCFM	10 billion CFU	32	Guar Gum	5 g

33	Skullcap	1 g	34	Salmon	
35	Lactobacillus Salivarius	10 billion CFU	36	Bifidobacterium Breve	10 billion CFU
37	Lactobacillus Delbrueckii and S. Thermophilus	10 billion CFU	38	Intermittent Fasting	
39	Schisandra	1 g	40	Bifidobacterium Lactis HN019	10 billion CFU
41	L. Rhamnosus HN001 and B. lactis HN019	10 billion CFU	42	Yacon	
43	Prune Essence Concentrate		44	Orange Juice	
45	Oyster Mushroom	600 mg	46	Lactoferrin	100 mg
47	L. Rhamnosus HN001 and L. Acidophilus NCFM	10 billion CFU	48	Oligonol	100 mg
49	Avocado		50	Bacillus Coagulans MTCC5856	
51	Bifidobacterium Lactis Bi-07	10 billion CFU	52	Blackcurrant Supplement	
53	Dragon Fruit		54	Raspberries	
55	Bifidobacterium Infantis 35624		56	Fucoidan	300 mg
57	Lactobacillus Johnsonii	10 billion CFU	58	Cocoa	
59	Lime Flowers		60	Lactobacillus Delbrueckii	10 billion CFU
61	Avoid Refined Sugar		62	Eat Fiber-Rich Foods	
63	Inulin	5 g	64	Legumes	
65	Whole Grains		66	Fruits And Vegetables	
67	Psyllium	5 g	68	Lactobacillus Rhamnosus HN001	10 billion CFU
69	Alanylglutamine	1 g	70	Xylo-oligosaccharides	2 g
71	Lactobacillus Plantarum	10 billion CFU	72	Bacillus Coagulans	

73	Strawberries		74	Probiotic Dairy
75	Bifidobacterium Longum	10 billion CFU	76	Akkermansia
77	Rehmannia	250 mg	78	Bacillus Clausii
79	Resistant Starch	40 g	80	Alpha-Ketoglutarate (AKG) 1 g
81	Regular Sleep Schedule		82	Dietary Selenium
83	Fructooligosaccharides (FOS)	3 g	84	Bifidobacterium Animalis Subsp. Lactis 10 billion CFU
85	Fermented Dairy		86	Acacia Fiber 5 g
87	Streptococcus Thermophilus	10 billion CFU	88	Lactobacillus Rhamnosus 10 billion CFU
89	Bacillus Subtilis		90	Bifidobacterium Longum BB536 10 billion CFU
91	Galacto-oligosaccharides (GOS)	3 g		

1

Prebiotics

IMPACT 4 / 5

EVIDENCE 3 / 5

How to implement

Take 125 mg of a prebiotic supplement daily. Consistent daily intake is key for maintaining gut health.

TYPICAL STARTING DOSE

125 mg

Description

Prebiotics are primarily plant-based sources of dietary fiber that provide nourishment for beneficial gut bacteria. These foods, like garlic, onions, and asparagus, promote a healthy gut microbiome, support digestion, and enhance nutrient absorption.

Prebiotics are certain fibers and other complex carbs that serve as food for gut bacteria. **They support gut health by helping boost the activity and growth of "good" bacteria** [R, R].

Some natural sources of prebiotics include [R, R]:

- Whole grains
- Bananas
- Onions
- Soybeans

Prebiotics are also added to foods and supplements. Common prebiotic ingredients are [R, R]:

- Oligo-fructose
- Oligo-galactose
- Inulin

Combined mixtures of probiotics and prebiotics are known as **synbiotics** [R].

How it helps

Prebiotics are non-digestible plant fibers that nourish the gut microbiome. They [R]:

- Are resistant to stomach acidity and digestive enzymes
- Reach the colon undigested
- Are fermented by gut microbiome in the colon
- Promote the growth and activity of "good" bacteria

Getting more fiber from food or prebiotics may [R, R, R, R, R, R, R, R, R]:

- **Increase overall microbiome richness and stability**
- **Promote the growth of beneficial bacteria**, such as *Bifidobacteria* and *Lactobacilli*

2

Kefir

IMPACT 4 / 5

EVIDENCE 2 / 5

How to implement

Incorporate kefir into your daily diet by drinking approximately 1-2 cups (240-480 ml) per day. It can be consumed on its own, blended into smoothies, or used as a base for salad dressings or soups. Continuous consumption over several weeks is recommended to observe its health benefits.

Description

Kefir is a fermented dairy product packed with probiotics, which can promote gut health and support digestion. Regular consumption of kefir is associated with improved digestive function and may enhance the immune system.

How it helps

Kefir contains probiotics that increase the diversity of beneficial bacteria in your gut, helping improve digestion and inflammation. This form of fermented dairy also has properties to ward off harmful pathogens, supporting overall gut health.

In a placebo-controlled trial of 56 healthy adults, consuming kefir with *Bifidobacterium longum, Lactobacillus acidophilus, L. fermentum, L. helveticus, L. paracasei, L. rhamnosus, and Streptococcus thermophilus* daily for 3 weeks reducedabdominal pain, bloating, and appetite and increased the abundance of bifidobacteria in men, while increasing the gastrointestinal abundance of total anaerobes and total bacterial in women. In a non-placebo-controlled trial of 45 patients with IBD, consuming kefir (400 mL/day for 4 weeks, day and night) increased fecal lactobacilli count, decreased bloating, and improved well-being. A special Hungarian kefir called biofir consumed for 4 weeks increased the abundance of the probiotic flora in a non-placebo-controlled trial of 120 healthy volunteers [R, R, R].

3

Probiotic Yogurt

IMPACT 3 / 5

EVIDENCE 3 / 5

How to implement

Consume one to two servings of probiotic yogurt each day. Each serving is typically 6 to 8 ounces. Continue this practice daily for at least 1 to 2 weeks to begin noticing benefits to digestive health.

Description

Probiotic yogurt is a dairy product containing live probiotic cultures like Lactobacillus and Bifidobacterium, which can aid digestion and improve gut health when consumed regularly. It is a good source of calcium, protein, and probiotics, contributing to bone health and digestive well-being.

How it helps

Eating probiotic yogurt introduces beneficial bacteria into your digestive system, enhancing the variety of your gut flora. This supports your gut microbiome diversity which contributes to a healthy digestion and overall wellness.
Forty-eight participants from the yogurt group and 44 from the milk group completed the intervention. Yogurt also decreased serum LPS, fibroblast growth factor 21, lipids, and biomarkers of inflammation and oxidative stress, and altered gut microbiota composition [R].

Fifteen healthy adults ingested a daily serving of one of three commercial yogurts (two of the products contained a probiotic lactobacilli strain) for 20 days. The human fecal bacterial community could be altered by ingesting yogurt, although whether probiotic lactobacilli are present or absent in the yogurt does not seem to be a factor in this change [R].

In a crossover design study, 63 subjects consumed fresh and heat-treated yogurt for 15 days, with a 2-week washout period. No significant differences were found in fecal samples, but both yogurt types increased LAB and C. perfringens density while decreasing Bacteroides, with fresh yogurt having higher LAB density [R].

A randomized controlled trial with 41 patients in the experimental group and 40 in the control group involved probiotic yogurt consumption for 14 days. The probiotic yogurt reduced intestinal flora imbalance and had therapeutic benefits for patients with chronic liver disease [R].

Probiotic yogurt and acidified milk similarly reduce postprandial inflammation that is associated with a HFM while inducing distinct changes in the gut microbiota of healthy men. These observations could be relevant for dietary treatments that target 'low-grade' inflammation [R].

4

Mediterranean Diet

IMPACT 3 / 5

EVIDENCE 3 / 5

How to implement

Incorporate a variety of primarily plant-based foods, such as fruits, vegetables, whole grains, nuts, and legumes, into every meal. Choose healthy fats, like olive oil, over saturated fats and consume fish and poultry at least twice a week. Limit red meat to a few times a month and include a moderate amount of dairy products. Opt for water and red wine in moderation as your beverages.

Description

The Mediterranean diet is based on the traditional cuisine from the Mediterranean regions. It moderates the intake of red meat and dairy, while being rich in fruits and vegetables, whole grains, and healthy fats (olive oil).

The Mediterranean diet focuses on traditional cuisine from the Mediterranean regions. It's rich in [R]:

- Olive oil
- Fruits and vegetables
- Whole grains
- Nuts and seeds
- Fish

This type of diet may **reduce inflammation and protect the brain and heart** [R, R, R, R].

Limited intake of animal products, saturated fat, and refined sugar likely contribute to the health benefits of the Mediterranean diet [R].

How it helps

People who eat a Mediterranean diet may have a more diverse gut microbiome. This diet may increase the growth of beneficial species and genera such as *Clostridium leptum, Eubacterium rectale*, *Bifidobacteria*, *Bacteroides*, and *Faecalibacterium prausnitzii* while inhibiting harmful *Firmicutes* and *Blautia* [R, R, R, R].

5

Probiotics

IMPACT 3 / 5

EVIDENCE 3 / 5

How to implement

Take a probiotic supplement containing 10 billion or more live cultures once daily, preferably with a meal or as directed by the packaging or a healthcare provider.

TYPICAL STARTING DOSE

10 billion

Description

Probiotics are live beneficial bacteria and yeasts that can support gut health and digestive function when consumed as supplements or found in fermented foods like yogurt and sauerkraut. They may be beneficial to gut health, immune function, blood sugar, and mood.

Probiotic bacteria are "good" bacteria found mainly in the large intestine. They support your body and mind by [R, R, R, R, R, R, R, R]:

- Maintaining gut health
- Supporting a healthy immune system
- Improving your mood
- Helping to maintain healthy blood sugar

Prebiotics are certain types of fiber and other complex carbs that serve as food for gut bacteria. **They support gut health by helping boost the activity and growth of "good" bacteria** [R, R].

Prebiotics are also added to foods and supplements. Common prebiotic ingredients are [R, R]:

- Oligo-fructose
- Oligo-galactose
- Inulin

Mixtures of probiotics and prebiotics are known as **synbiotics** [R].

How it helps

Probiotics can increase the levels of "good" bacteria, such as *Lactobacilli* and *Bifidobacteria*, in the gut. They can also decrease the levels of potentially harmful microbes [R, R, R, R, R, R, R, R, R, R].

They can be taken with or without prebiotics [R, R].

In general, probiotics that contain multiple species and higher CFU* tend to be more effective.

**CFU (colony forming units) = the number of active bacteria in one probiotic serving*

6

Almonds

IMPACT 2 / 5

EVIDENCE 3 / 5

How to implement

Incorporate a handful of almonds (about 23 kernels) into your daily diet. You can eat them as a snack, add them to your breakfast cereals or yogurt, or include them in salads and other dishes. Do this consistently for ongoing health benefits.

Description

Almonds are a good source of omega-6s, protein and vitamins, making for a great snack food. A 1-ounce serving provides 3700 mg of omega-6.

Almonds are nutritious tree nuts that originate from the Prunus dulcis tree. They are packed with essential nutrients, including healthy fats, fiber, vitamin E, and magnesium, which collectively contribute to heart health, support weight management, and may help regulate blood sugar levels.

How it helps

Eating almonds provides a high amount of dietary fiber which feeds the healthy bacteria in your gut, enhancing microbial diversity. Improved gut microbiome diversity is linked to better digestion and immune system support.

Consuming nuts (almonds, walnuts, pistachios) in nine randomized trials increased certain gut bacteria (Clostridium, Dialister, Lachnospira, Roseburia) while decreasing Parabacteroides, with no impact on overall bacterial diversity or stool output in eight studies [R].

Nine randomised studies were included in the systematic review and eight were used for the meta-analysis. **The results would suggest that almond-based diets have significant effects in promoting the growth of short-chain fatty acid (SCFA)-producing gut microbiota** [R].

7

Oats

IMPACT 2 / 5

EVIDENCE 3 / 5

How to implement

Incorporate oats into your diet daily by having them for breakfast as oatmeal, or adding them to smoothies, baking recipes, or overnight oats. Aim for at least a half-cup (40 grams) of dry oats to reap the health benefits.

Description

Oats are a whole grain known for their high fiber content and nutritional value, like zinc, iron, and manganese. Including oats in one's diet can promote heart health, stabilize blood sugar levels, and provide sustained energy.

Oats are a good source for manganese, zinc, iron, magnesium, and vitamins B1 and B5. A ½ cup serving provides 0.7 mg of manganese or 30%DV.

How it helps

Oats are a rich source of dietary fibers called beta-glucans that act as food for your friendly gut bacteria, improving their numbers and diversity. This positively influences your gut microbiome diversity, which is essential for good gut health and overall wellbeing.

A meta-analysis of 84 studies found that oat intake increased total bacterial count, *Lactobacillus* spp., and *Bifidobacterium* spp in both healthy individuals and those with celiac disease [R].

8

Sleep for 7+ Hours

IMPACT 2 / 5

EVIDENCE 3 / 5

How to implement

Ensure you allocate enough time in your schedule to achieve a minimum of 7 hours of sleep each night. This might involve going to bed earlier or adjusting your evening routine to promote relaxation and make it easier to fall asleep.

Description

Optimizing sleep involves adopting healthy sleep habits and creating a sleep-conducive environment to ensure restorative and sufficient sleep duration. It supports cognitive function, mood stability, and overall physical health. Most experts recommend getting **at least 7 hours of good-quality sleep each night**.

Sleep supports your body and mind [R, R]. More precisely, sleep helps:

- Support brain health [R, R]
- Maintain a healthy weight and appetite [R, R, R]
- Regulate blood pressure [R, R]
- Balance blood sugar [R, R]

Ways to sleep better include [R]:

- Reducing your bright light exposure (screen time) in the evenings
- Sticking to a regular sleep schedule
- Avoiding hunger or large meals before bed
- Avoiding nicotine, caffeine, and alcohol before bed
- Maintaining a sleep area that's cool, dark, and quiet

How it helps

The sleep centers in the brain and your microbiome communicate and affect each other through various hormones and metabolites [R].

It is no surprise then that lack of sleep and low sleep quality may disturb the gut microbiome [R, R, R, R, R].

Shifts in the sleep-wake cycle can also affect gut bacteria. This can include [R, R, R, R]:

- Shift work
- Early morning starts
- Delayed bedtimes

In turn, the composition of your microbiome can affect how well you sleep [R, R].

9

Lactobacillus Casei

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Take a supplement containing Lactobacillus casei daily, with a dosage recommended by the product's manufacturer or a healthcare professional. The specific amount can vary, but it is commonly found in doses around 10 billion colony-forming units (CFUs). Continue this regimen for at least 4 weeks to observe potential health benefits.

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus casei is a probiotic bacterium known for its potential to support gut health and immune function. It contributes to a balanced gut microbiome and may help alleviate digestive issues like diarrhea.

Lactobacillus casei is a probiotic bacterium found in fermented foods (e.g., cheese), as well as in the reproductive and gastrointestinal tracts of humans and other animals [R, R].

People mainly take *L. casei* to support a healthy gut microbiota [R].

How it helps

Supplementing with *L. casei* LTL1879 for 3 weeks altered gut microbiota, reducing harmful bacteria such as *E. coli*, *Enterococcus*, and *Bacteroides*, and increasing beneficial ones like *Clostridium leptum*, *Bifidobacterium*, and *Lactobacillus*. In multiple trials, *L. casei* Shirota normalized the gut microbiome in various populations, but it didn't correct imbalances in a metabolic syndrome trial. Additionally, yogurt with *L. casei* increased beneficial *Lactobacillus* bacteria in infants [R, R, R, R, R, R, R, R].

L. casei may enhance gut microbiome diversity by populating the gut flora with beneficial bacteria.

10

Berberine

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Take 500 mg of berberine two times a day before meals. Continue this regimen for up to three months, then evaluate its effects with your healthcare provider.

TYPICAL STARTING DOSE

500 mg

Description

Berberine is a compound found in certain plants, known for its potential to support blood sugar control and heart health.

Berberine is an active compound of some plants used in traditional medicine, such as [R]:

- European barberry
- Oregon grape
- Goldenseal
- Chinese goldthread
- Tree turmeric

Berberine is also available as a supplement. People use it to help with [R, R, R]:

- Diabetes
- High cholesterol
- High blood pressure
- PCOS

How it helps

In patients with type 2 diabetes and related metabolic disorders, supplementation with berberine may increase *Bacteroides* and *Bifidobacterium breve* in the gut while inhibiting *Firmicutes*, coliforms, and *Ruminococcus bromii* [R, R, R, R].

Berberine may also improve the composition of the gut microbiome in patients with Parkinson's disease [R].

11

Saccharomyces Boulardii

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Take Saccharomyces boulardii as an oral supplement, typically available in capsule or powder form, twice daily with a glass of water. Continue this regimen for 4-8 weeks, or as directed by a healthcare provider.

TYPICAL STARTING DOSE

10 billion CFU

Description

Saccharomyces boulardii is a beneficial yeast often used as a probiotic supplement to support digestive health and prevent or alleviate symptoms of diarrhea, including those caused by antibiotics or infections.

How it helps

In a non-placebo-controlled trial of 49 healthy volunteers, supplementation with *S. boulardii* CNCM I-745 reduced gut microbiota shifts caused by clavulanic acid and lowered *Escherichia* overgrowth. Another non-placebo-controlled trial with 24 children found that *S. boulardii* reduced E. coli in stool. In a placebo-controlled trial of 44 HIV patients, it decreased certain gut species linked to bacterial translocation and inflammation, such as *Clostridiaceae*. Additionally, a probiotic mixture containing *S. boulardii* reduced *Pseudomonas* colonization after antibiotic treatment in a placebo-controlled trial of 120 patients treated with amoxicillin [R, R].

S. boulardii may help by replenishing good bacteria while inhibiting harmful bacteria.

12

Exercise At Least One Hour a Day

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Dedicate a minimum of 60 minutes to moderate-intensity activities such as brisk walking, swimming, or cycling. Do this most days of the week, aiming for at least 5 days to optimize benefits.

TYPICAL STARTING DOSE

1 hour

Description

Exercise can do wonders for your health. It can help you lose weight, improve your heart health, boost your mood, and more [R].

There are many ways you can be active. You can walk, run, swim, dance, or play team sports. **Everything counts, and it's never too late to start!**

Try to get at least **60 minutes of moderate physical activity on most days**, including walking. **Getting a mix of cardio (min 150 min/day) and strength training (min 2 times a week) may be optimal**.

How it helps

Exercise may increase the number of “good” bacteria and enrich gut microbiome diversity [R, R, R, R].

However, keep in mind that while low- to moderate-intensity exercise appears beneficial, high-intensity endurance exercise may have a negative effect [R, R].

13

Chicory

IMPACT 2 / 5

EVIDENCE 2 / 5

Description

Chicory is a nutrient-rich vegetable that has been shown to have a number of health benefits. It is a good source of fiber, vitamin K, and antioxidants. Chicory may also help to improve digestion, lower blood sugar levels, and boost the immune system.

How it helps

In 3 studies of 103 healthy adults, fiber supplementation from chicory inulin and snack bars increased *Bifidobacterium* abundance and altered fecal microbiota without significant changes in SCFA concentration. Moderate-dose fiber (7 g/day) showed notable microbial changes, while low-dose fiber (3 g/day) and oligofructose (8 g/day) also supported bifidobacteria growth, improving stool frequency and consistency with minimal discomfort [R, R, R].

14

Aerobic Exercise (Cardio)

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Engage in at least 150 minutes of moderate-intensity aerobic exercise or 75 minutes of vigorous-intensity activity each week. Distribute this time over at least 3 days per week, avoiding consecutive days of vigorous exercise to allow for recovery.

TYPICAL STARTING DOSE

1 hour

Description

Engaging in regular aerobic exercise, such as running, swimming, or cycling, offers numerous health benefits, including improved cardiovascular fitness, weight management, and mood enhancement. It supports overall physical and mental well-being while reducing the risk of chronic diseases.

Cardio, short for cardiovascular exercise, is any type of physical activity that temporarily increases your heart rate. Examples include **running, cycling, swimming, and brisk walking**.

Regular cardio exercise has many benefits for your overall health. It can help lower your risk of heart disease and diabetes, support weight loss, and improve your mood and energy levels. To get the most out of cardio, try to do it for at **least 30 minutes, 3-5 times a week**.

Interval training is a type of cardio that combines periods of high-intensity training with brief rest periods.

How it helps

Exercise (including cardio) may increase the number of “good” bacteria and enrich gut microbiome diversity [R, R, R, R].

However, keep in mind that while low- to moderate-intensity exercise appears beneficial, high-intensity endurance exercise may have a negative effect [R, R].

15

Lactobacillus Paracasei

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Take a supplement containing Lactobacillus paracasei daily, with a dose of around 10 billion colony-forming units (CFUs). Consume the supplement with or without food, but consistently at the same time each day for at least 4 weeks to observe beneficial effects.

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus paracasei is a beneficial probiotic strain that can support digestive health and contribute to a balanced gut microbiome. It may help improve gut function, enhance nutrient absorption, and bolster the immune system, promoting overall well-being.

Lactobacillus paracasei is a type of bacteria naturally found in the intestine. It is considered a **probiotic bacteria**, which means **“good” bacteria** that has health benefits when taken in adequate amounts [R].

L. paracasei is used in the production of the following fermented foods [R]:

- Yogurt
- Cheese
- Sauerkraut

It may help [R, R, R, R, R, R, R, R]:

- Improve gut and skin health
- Boost immunity
- Fight allergies

How it helps

In various placebo-controlled trials involving healthy volunteers or children, supplementation with *L. paracasei* strains, such as DG, CBA L74, LC01, and LMGP22043, positively influenced the gut microbiota. It increased beneficial bacteria like *Lactobacillus*, *Bifidobacterium*, *Blautia*, *Roseburia*, and *Faecalibacterium*, while reducing harmful species like *Escherichia coli* and *Clostridium spp*. [R, R, R, R, R].

16

Cinnamon

IMPACT 2 / 5

EVIDENCE 1 / 5

How to implement

Take a 1 g cinnamon supplement once daily, ideally with a meal to aid absorption. This can be in the form of a capsule or tablet. Continue this regimen as long as it aligns with your health goals and under the guidance of a healthcare provider.

TYPICAL STARTING DOSE

500 mg

Description

Cinnamon is a popular spice that may have various health benefits, including improving blood sugar control, reducing inflammation, and providing antioxidants. It's commonly used in both culinary and herbal applications.

Cinnamon is a spice made from the bark of *Cinnamomum* trees. Cinnamon can [R]:

- Decrease inflammation
- Fight oxidative stress
- Kill microbes

Cinnamon is mainly used in cooking and fragrances. **As a natural remedy, people use cinnamon to reduce blood sugar** [R].

There are two main types of cinnamon [R]:

- Ceylon or 'true' cinnamon (*Cinnamomum verum*)
- Chinese or Cassia cinnamon (*Cinnamomum cassia*)

How it helps

Cinnamon aids in controlling blood sugar levels, which in turn can promote gut microbiome diversity. It also displays anti-inflammatory and antioxidant properties which can enhance the overall health of your gut.

An RCT with 70 subjects with diarrhea symptoms found that cinnamon (*Cinnamomum cassia*) water extract (1,200 mg, 2x/day for 8 weeks) **improved diarrhea symptoms** by changing the gut environment. It **increased colonic transit time, fecal isobutyric acid, and spermidine contents**. It also **decreased fecal indole and agmatine contents**. Cinnamon increased alpha diversity and changed strains such as Bifidobacterium longum ATCC 55813 [R].

17

Chickpeas

IMPACT 2 / 5

EVIDENCE 1 / 5

How to implement

Incorporate chickpeas into your diet by adding them to salads, soups, and stews, or by making hummus. Aim for at least a half-cup serving, 3-4 times a week.

Description

Chickpeas, also known as garbanzo beans, are a good source of fiber, protein, and various vitamins and minerals. They can promote digestive regularity, provide sustained energy, and contribute to overall well-being when included in a balanced diet.

Chickpeas are a good source of minerals like manganese, iron, copper, zinc, and phosphorus, as well as folate and fiber. A ½ cup serving provides 0.9 mg of manganese or 39%DV.

How it helps

In a non-placebo-controlled trial of 12 healthy volunteers, consuming soups and desserts fortified with canned chickpeas (200 g/day) for 3 weeks modulated the intestinal microbial composition to promote intestinal health [R].

Chickpeas are rich in dietary fiber, which feeds healthy gut bacteria and supports a diverse microbiome.

18

Tomato

IMPACT 2 / 5

EVIDENCE 1 / 5

How to implement

Incorporate fresh or cooked tomatoes into your daily diet. This can be achieved by adding them to salads, sandwiches, pastas, and sauces or simply eating them on their own. Aim for at least one serving (approximately 1 medium-sized tomato or 1/2 cup of chopped or cooked tomatoes) per day.

Description

Tomatoes are a fruit grown widely in numerous varieties, and are rich in vitamins C and K, as well as the antioxidant lycopene, which may contribute to heart health and protect against certain chronic diseases when incorporated into a balanced diet.

Tomato (*Solanum lycopersicum*) is a fruit originally from the Andes in South America. It is usually consumed as a vegetable in juices, sauces, or fresh. Tomate is an important source of [R]:

- Vitamin C
- Potassium
- Antioxidants (e.g., lycopene)
- Vitamin B9 (folate)

Tomato is traditionally used for [R, R]:

- High cholesterol
- High blood pressure

How it helps

Tomatoes are rich in dietary fiber, which helps promote diversity in your gut microbiome by supporting different types of beneficial bacteria growth. Further, the antioxidants in tomatoes, like lycopene, can protect gut microflora from harmful free radicals.

In a placebo-controlled trial of 22 overweight and obese participants, consuming a water-soluble tomato extract (150 mg, 2x/day) for 4 weeks **lowered TMAO levels and decreased the abundance of Bacteroides, Ruminococccus, and Hungatella while increasing Alistipes** [R].

19

Black Chokeberry

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate black chokeberry (Aronia melanocarpa) in your diet by consuming 100-200 grams of fresh berries daily. If using a concentrated form like juice or extracts, follow the manufacturer's instructions, usually around 100 ml of juice or 500 mg of extract per day, for at least 8-10 weeks to observe potential health benefits.

Description

Black chokeberry is a fruit known for its high content of antioxidants and potential health benefits. It may support cardiovascular health and provide immune system support when incorporated into a balanced diet.

How it helps

Black chokeberry is rich in fiber and antioxidants that aid digestion, fostering a diversified gut microbiome. It promotes the growth of beneficial bacteria while suppressing harmful ones, improving your overall gut health.

In a placebo-controlled trial of 66 healthy men, consuming black chokeberry extract (116 mg, 75 g berries), or whole fruit powder (12 mg, 10 g berries) for 12 weeks **increased the abundance of Anaerostipes and Bacteroides** [R].

20

Pentadecanoic Acid (C15:0)

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

While there is no officially recommended daily intake for pentadecanoic acid, research suggests that **20–50 mg per day** may support health benefits such as improved metabolism, reduced inflammation, and enhanced cellular health. You can achieve this through a balanced diet rich in full-fat dairy and fatty fish or by taking supplements as directed. Always consult with a healthcare professional before starting supplementation, especially if you have specific health conditions or dietary restrictions.

Description

Pentadecanoic acid, also known as C15:0, is a 15-carbon saturated fatty acid that belongs to the group of odd-chain fatty acids. It is naturally found in full-fat dairy products (e.g., milk, butter, and cheese), certain fish, and some plant sources. Unlike even-chain fatty acids, pentadecanoic acid has unique biological properties that are being increasingly studied for its potential health benefits.

Supplementation with pentadecanoic acid has shown promise in supporting metabolic health by improving cholesterol levels, enhancing insulin sensitivity, and reducing inflammation. It may also promote cellular health by stabilizing cell membranes and improving mitochondrial function. Additionally, C15:0 has been linked to better immune system regulation, neuroprotection, and potentially reducing the risk of chronic diseases like diabetes and cardiovascular conditions. As an emerging "essential fatty acid," it is gaining attention for its role in promoting long-term health and wellness.

How it helps

In a placebo-controlled trial of 88 Chinese women with NAFLD, eating a Mediterranean diet supplemented with pentadecanoic acid for 12 weeks increased the abundance of *Bifidobacterium adolescentis* better than a Mediterranean diet alone [R].

21

Ginger

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a 500 mg ginger supplement daily, preferably with a meal to enhance absorption and minimize potential stomach discomfort.

TYPICAL STARTING DOSE

500 mg

Description

Ginger is a versatile spice known for its potential anti-inflammatory and digestive benefits. It may help alleviate nausea, reduce muscle soreness, and support gastrointestinal comfort when consumed as part of a balanced diet.

Ginger root is a cooking spice and a traditional remedy. People mostly use it to relieve [R]:

- Nausea
- Menstrual cramps
- Joint pain

How it helps

In a placebo-controlled trial of 51 healthy participants, supplementation with ginger root powder (84 mg/day of active gingerols/shogaols) for 14 days increased the abundance of the genera *Parabacteroides*, *Bacillus*, *Ruminococcaceae incertae sedis*, and unclassified Bacilli and the families *Defluviitaleaceae*, *Morganellaceae*, and *Bacillaceae* while lowering the abundance of the genus *Blautia* and the family *Sphingomonadaceae* [R].

22

Bifidobacterium Bifidum

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a bifidobacterium bifidum supplement according to the manufacturer's instructions, usually once or twice daily with a glass of water and potentially with meals. Supplement duration varies; some may use it continuously for ongoing gut health support, while others might take it for a specific period, such as 4-8 weeks, especially during or after antibiotic treatment.

TYPICAL STARTING DOSE

10 billion CFU

Description

Bifidobacterium bifidum is a probiotic strain that can help support digestive health and maintain a balanced gut microbiome.

Bifidobacterium bifidum is a probiotic bacterium naturally present in the human gastrointestinal tract. This species is the second most abundant one in breast-fed infants, but its levels decrease during adulthood [R].

People take *B. bifidum* to help with [R]:

- Digestive issues
- Eczema
- Infections

How it helps

Bifidobacterium Bifidum is a type of good bacteria that improves gut microbiome diversity by promoting the growth of other beneficial bacteria and maintaining overall gut health. By taking it as a supplement, it aids in digestion, boosts the immune system, and potentially reduces the risk of certain gut-related issues.

In a placebo-controlled trial of 32 healthy volunteers, supplementation with Bifidobacterium bifidum strain Bb for 4 weeks decreased fecal *Prevotellaceae* and *Prevotella* while increasing *Ruminococcaceae* and *Rikenellaceae.* Supplementation with *B. bifidum* TMC3115 for 3 weeks increased *Firmicutes*, *Bacteroides*, and *Actinobacteria* while decreasing *Proteobacteria* and *Fusobacteria* in a placebo-controlled trial of 47 subjects with mild hyperglycemia and dyslipidemia [R, R].

23

Glutathione supplements

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take glutathione supplements orally, usually in pill or powder form, with a recommended dose ranging from 500mg to 1000mg daily, divided into two doses. It's best taken on an empty stomach or as directed by a healthcare professional. Continuous use is advised for sustained benefits, but consulting with a healthcare provider for personalized advice and duration is important.

Description

Glutathione (GSH) is your body's strongest antioxidant. It has an enormous capacity to combat oxidative stress and neutralize harmful free radicals. Chemically speaking, glutathione is a tripeptide made up of 3 amino acids [R]:

- Glutamate
- **Cysteine**
- Glycine

Low glutathione levels have been linked to cognitive decline, age-related disease, and general mortality among the elderly [R, R].

People take glutathione supplements to help with:

- Oxidative stress and detox
- Immune system support
- Skin aging and damage
- Exercise recovery
- Chronic diseases such as type 2 diabetes, Alzheimer's disease, Parkinson's disease, or COPD

How it helps

Supplementation with reduced glutathione (500 mg/day for 6 months) increased the abundance of *Megasphaera*, *Bacteroides*, and *Megamonas* while decreasing pathogenic *Escherichia* and *Shigella* in patients with type 2 diabetes [R].

24

Prunes

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Eat 5-6 prunes daily, either as a snack or incorporated into meals, to help improve digestion and potentially bone health. Continue this habit consistently for at least a few weeks to observe benefits.

Description

Prunes are dried plums that are rich in dietary fiber, vitamins, and minerals, particularly potassium and vitamin K, as well as antioxidants. They are often consumed to support digestive health and may help regulate bowel movements.

Prunes are a good source of omega-6 fatty acids, vitamin A and B6, potassium, iron, magnesium, and copper. A ½ cup serving provides 635 mcg or 14%DV.

How it helps

In a study of postmenopausal women, those consuming 50g of prunes daily showed reduced bacterial diversity in their fecal microbiome compared to others. Prunes also influenced specific bacterial families and correlated with metabolic and inflammatory markers [R].

In a study with 60 mild hypercholesterolemic subjects, consuming prune extract concentrate (PEC) for 4 weeks increased Bifidobacterium and Lactobacillus colony numbers but decreased Clostridium perfringens and Escherichia coli levels [R].

25

Lactobacillus Acidophilus

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a probiotic supplement containing Lactobacillus acidophilus. Look for products that offer around 10 billion CFUs (colony-forming units) and take it once daily, preferably on an empty stomach, either first thing in the morning or right before bed.

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus acidophilus is a probiotic bacterium that has been traditionally and widely used in the dairy industry to make yogurt [R].

More recently, *L. acidophilus* has been used as a probiotic. People take it to help with [R, R, R, R]:

- High cholesterol
- Gut diseases
- Allergies
- Vaginal infections

How it helps

In a placebo-controlled trial of 18 healthy volunteers, taking a synbiotic with Lactobacillus acidophilus NCFM (10^9 cfu/day) and cellobiose for 3 weeks increased the levels of *Lactobacillus* spp. and relative abundances of the genera *Bifidobacterium*, *Collinsella*, and *Eubacterium* while the genus *Dialister* was decreased [R].

Another synbiotic with *L. acidophilus* NCFM and lactitol increased *L. acidophilus* and *Bifidobacterium* levels in a placebo-controlled trial of healthy elderly subjects. This synbiotic taken for 2 weeks increased bifidobacteria and lactobacilli levels in a placebo-controlled trial of 51 elders [R, R].

Consuming cheese with *L. acidophilus* NCFM and *L. rhamnosus* HN001 increased the fecal levels of these strains while decreasing *Clostridium difficile* in a placebo-controlled trial of 31 elderly volunteers [R].

The combination of a diet richer in fruits and vegetables and supplementation with a synbiotic containing *L. acidophilus* NCFM and *Bifidobacterium lactis* HN019 lowered *Megamonas* abundance better than either of these interventions alone in a non-placebo-controlled trial of 55 overweight or obese participants [R].

26

L. Rhamnosus HN001 and B. Longum BB536

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

L. rhamnosus HN001 is available in various forms, including capsules, powders, and sometimes as an ingredient in fermented dairy products like yogurts and kefirs. Typically, doses range from 1 billion to 10 billion colony-forming units (CFUs) per day. It is often recommended to start with a lower dose and gradually increase it to gauge how your body responds. Consistency is key. Taking *L. rhamnosus* HN001 regularly can help maintain its effectiveness.

TYPICAL STARTING DOSE

10 billion CFU

B. longum BB536 is available in several forms, including capsules, powders, and chewables. The typical dosage for *B. longum* BB536 ranges from 1 billion to 5 billion colony-forming units (CFUs) per day, depending on the health objectives and the specific product formulation. It is often recommended to start with a lower dose to assess tolerance before gradually increasing to the desired dose.

Description

Lactobacillus rhamnosus HN001 is a probiotic strain originally isolated from dairy products. Research suggests that *L. rhamnosus* HN001 can have several beneficial impacts, particularly in the areas of digestive health and immune system support.

People mainly take *L. rhamnosus* HN001 to help with:

- IBS
- Diarrhea
- Respiratory infections
- Eczema
- Anxiety
- Depression

Bifidobacterium longum BB536 is a well-researched probiotic strain that offers various health benefits. Originating from human gut flora, this strain has a high survival rate through the gastrointestinal tract, enhancing its efficacy.

B. longum BB536 is a versatile probiotic that supports digestive health, strengthens the immune system, and offers antioxidant benefits.

How it helps

A probiotic combining *L. rhamnosus* HN001 and *B. longum* BB536 increased the abundance of *Blautia producta, Blautia wexlerae* and *Haemophilus ducrey* while decreasing *Holdemania filiformis, Escherichia vulneris, Gemmiger formicilis,* and *Streptococcus sinensis* in a placebo-controlled trial of 20 healthy volunteers. This combination decreased the *Bacteroidetes*-to-*Firmicutes* ratio in a placebo-controlled trial of 34 breast cancer survivors [R, R].

27

Lychee Extract

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take lychee extract in supplement form, usually available as capsules or powder. For adults, the typical dosage can be around 100 to 200 mg daily, taken with meals. This supplement should be taken consistently for at least one month to begin observing potential health benefits.

TYPICAL STARTING DOSE

100 mg

Description

Lychee extract is derived from lychee fruit and is often used for its potential antioxidant and anti-inflammatory effects. It may offer benefits for skin health, immune function, and overall well-being when used as part of a balanced diet.

How it helps

Lychee Extract contains antioxidants which may help in the growth of healthy gut bacteria, supporting diverse microbiome health. This can lead to improved digestion, nutrient absorption, and immune function.

A 24-week study on 38 NAFLD patients using litchi extract oligonol showed reduced liver fat (MRI-PDFF), improved gut microbiota diversity, and increased beneficial bacteria producing short-chain fatty acids [R].

In a 24-week trial on 40 NAFLD patients, oligonol from Litchi chinensis extract had a limited effect, with 20% showing ≥30% reduction in MRI-PDFF, similar to the placebo group. No significant changes in other health markers were observed [R].

28

Chinese Rhubarb

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a supplement containing Chinese rhubarb extract, typically available in tablet or capsule form. The common dosage ranges from 500 to 1,000 mg per day, taken with water. It is advised to consult with a healthcare provider for the exact dosage based on individual health needs. Use this supplement daily for a period as recommended by the healthcare provider, usually not exceeding 8 weeks without medical advice.

TYPICAL STARTING DOSE

500 mg

Description

Chinese rhubarb is another traditional Chinese herbal remedy known for its potential to support digestive health and relieve constipation. It contains compounds that may have mild laxative effects.

Rhubarb (also named *Rhei* or *Dahuang*) is one of the most ancient herbs in traditional Chinese medicine. Rhubarb includes approximately 60 species of plants of the genus *Rheum L.* [R, R].

The rhubarb rhizome is considered a top medicinal plant in Chinese medicine. It is used for [R, R]:

- Constipation
- Kidney disease
- Herpes
- Gum disease

It may help due to its antibacterial and anti-inflammatory effects [R].

How it helps

In a study involving mainly women, participants were divided into three groups: two receiving different doses of rhein (12.5 mg and 25 mg per day) and one receiving a placebo for 30 days. The rhein supplementation was safe, improved bowel habits, and affected certain gut bacteria and short-chain fatty acids [R].

Chinese rhubarb may help by encouraging the growth of beneficial bacteria and inhibiting pathogens.

Please note: *Be careful with rhubarb if you are prone to allergies. High doses of rhubarb may cause diarrhea and abdominal cramps. Avoid long-term use due to dependence risk. Rhubarb is not safe for people with gut conditions, women who are pregnant or breastfeeding, and children under 12 years of age. Make sure to consult your doctor before taking rhubarb* [R, R].

29

Hazelnuts

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate a handful of hazelnuts (about 1 ounce or 28 grams) into your diet daily. You can eat them as a snack, sprinkle chopped hazelnuts over salads, or use hazelnut butter in smoothies. Ensure they are unsalted to keep your sodium intake low.

Description

Hazelnuts are a nutrient-dense nut rich in healthy fats, fiber, and essential vitamins and minerals. Incorporating hazelnuts into your diet can support heart health, provide energy, and contribute to overall nutritional wellness.

Hazelnuts are a good source of manganese, magnesium, as well as being really good for vitamin E, B6, and healthy fats. A 1-ounce serving provides 1.6 mg of manganese or 70%DV.

How it helps

Hazelnuts are packed with dietary fiber which can help improve gut microbiome diversity by promoting the growth of beneficial bacteria. Moreover, they contain antioxidants that may further contribute to a healthy gut environment.

In a non-placebo-controlled trial of 15 children with hyperlipidemia, consuming hazelnuts (0.43 g/kg body weight) for 8 weeks induced limited changes in fecal microbiota composition but significantly modulated the fecal levels of predominant intestinal SCFAs, such as acetate [R].

30

Pistachios

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate a handful of pistachios (about 1-2 ounces) into your daily diet. You can add them to your breakfast cereals, salads, or simply snack on them throughout the day. Do this regularly for ongoing heart health benefits and to aid in maintaining a balanced diet.

Description

Pistachios are a type of nut native to Asia but grown extensively in the Mediterranean. They are packed with healthy fats, fiber, protein, and various vitamins and minerals, like vitamins C, B6, and E, as well as potassium, copper, and iron. They are also rich in antioxidant and anti-inflammatory compounds, which can help lower cholesterol levels and support weight management.

The pistachio (*Pistacia vera L*), known as **the “green nut"**, is a nut native to Asia but widely cultivated in the Mediterranean. Pistachios have **low fat content** and high levels of [R, R, R]:

- Unsaturated fats
- Vitamins (C, B6, E, K, thiamin)
- Minerals (Potassium, copper, iron, and magnesium)

Pistachios also have a high **antioxidant and anti-inflammatory** effect [R].

How it helps

Eating pistachios can increase gut microbiome diversity, as they are high in fiber that serves as food for your gut bacteria, promoting the increase of beneficial types. This can lead to better gut health, improved digestion, and stronger immune function.

Consuming nuts (almonds, walnuts, pistachios) in nine randomized trials increased certain gut bacteria (Clostridium, Dialister, Lachnospira, Roseburia) while decreasing Parabacteroides, with no impact on overall bacterial diversity or stool output in eight studies [R].

Nine randomised studies were included in the systematic review and eight were used for the meta-analysis. **The results would suggest that almond-based diets have significant effects in promoting the growth of short-chain fatty acid (SCFA)-producing gut microbiota** [R].

31

Lactobacillus Acidophilus NCFM

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus acidophilus is a probiotic bacterium that has been traditionally and widely used in the dairy industry to make yogurt [R].

More recently, *L. acidophilus* has been used as a probiotic. People take it to help with [R, R, R, R]:

- High cholesterol
- Gut diseases
- Allergies
- Vaginal infections

L. acidophilus NCFM is a specific strain that may help relieve diarrhea, improve gut health, and boost the immune system. It can be taken as a supplement or found in some yogurts and other fermented foods.

How it helps

In a placebo-controlled trial of 18 healthy volunteers, taking a synbiotic with Lactobacillus acidophilus NCFM (10^9 cfu/day) and cellobiose for 3 weeks increased the levels of *Lactobacillus* spp. and relative abundances of the genera *Bifidobacterium*, *Collinsella*, and *Eubacterium* while the genus *Dialister* was decreased [R].

Another synbiotic with *L. acidophilus* NCFM and lactitol increased *L. acidophilus* and *Bifidobacterium* levels in a placebo-controlled trial of healthy elderly subjects. This synbiotic taken for 2 weeks increased bifidobacteria and lactobacilli levels in a placebo-controlled trial of 51 elders [R, R].

Consuming cheese with *L. acidophilus* NCFM and *L. rhamnosus* HN001 increased the fecal levels of these strains while decreasing *Clostridium difficile* in a placebo-controlled trial of 31 elderly volunteers [R].

The combination of a diet richer in fruits and vegetables and supplementation with a synbiotic containing *L. acidophilus* NCFM and *Bifidobacterium lactis* HN019 lowered *Megamonas* abundance better than either of these interventions alone in a non-placebo-controlled trial of 55 overweight or obese participants [R].

32

Guar Gum

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 5-10 grams of guar gum with at least 8 ounces of water. Start with a lower dose to assess your tolerance, then gradually increase as needed. It is best taken before meals, up to three times a day.

TYPICAL STARTING DOSE

5 g

Description

Guar gum is a soluble fiber derived from guar beans and is commonly used as a food thickener and stabilizer. Its ability to slow down digestion and promote a feeling of fullness can be beneficial for managing appetite and supporting digestive health when consumed as part of a balanced diet.

Guar gum is a fiber made from the seeds of the Indian cluster bean (*Cyamopsis tetragonolobus*). It is used in food products to help bind and thicken them [R].

Guar gum may help with blood pressure control and support the immune system [R].

How it helps

Guar Gum, a type of dietary fiber, acts as a prebiotic helping to nourish beneficial gut bacteria, which in turn enhances gut microbiome diversity. It sustains gut health, which positively impacts digestion and overall well-being.

Intake of guar gum for 3 months significantly improved stool form and had no effects on stool frequency. Comprehensive fecal microbiome analysis by the 16S rRNA-sequence method detected significant changes in the ratio of some bacteria, such as an increase of Bifidobacterium ($p < 0.05$) in the guar gum group [R].

33

Skullcap

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 1 to 2 grams of dried skullcap herb in capsule or tablet form, or 1 to 2 milliliters of a tincture three times daily. For standardized extracts, follow the specific dosage instructions on the product label.

TYPICAL STARTING DOSE

1 g

Description

Skullcap, also known as Scutellaria, is a herbaceous plant native to North American and Asia. Its extract is often used in traditional herbal medicine for its calming and anti-inflammatory properties. Skullcap extracts may contain various compounds, including flavonoids and polyphenols.

American skullcap (*Scutellaria lateriflora*) is a Native American herb traditionally used for [R]:

- Anxiety
- Stress
- Insomnia

How it helps

In a placebo-controlled trial of 17 patients with type 2 diabetes taking metformin, supplementation with skullcap (3.52 g/day) for 8 weeks **increased the abundance of *Lactobacillus* and *Akkermansia*** [R].

Skullcap is rich in antioxidants that can help restore balance in your gut microbiome. It could potentially improve gut health by promoting healthy bacteria diversity.

34

Salmon

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate at least two servings of salmon into your weekly diet, aiming for each serving to be about 3.5 ounces (100 grams), cooked. Choose wild-caught salmon when possible for higher omega-3 content.

Description

Salmon is a nutrient-rich fish known for its high content of omega-3 fatty acids, which can support heart health and reduce inflammation. It's also an excellent source of protein, vitamin D, and various minerals.

How it helps

In a clinical trial with 33 overweight/obese participants, an 8-week diet with 750 g/week of salmon resulted in specific changes in gut bacteria composition but did not significantly affect dietary intake or various metabolic markers in serum and urine [R].

Salmon is rich in omega-3 fatty acids and high-quality proteins, which promote the growth of beneficial bacteria in your gut.

35

Lactobacillus Salivarius

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a probiotic supplement containing Lactobacillus salivarius daily, preferably with a meal to enhance absorption. The exact dosage can vary, but a common amount is around 10 billion CFUs (colony forming units). It is generally recommended to continue taking the probiotic for at least four weeks to observe benefits.

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus saliverius is a beneficial probiotic strain that can support digestive health and contribute to a balanced gut microbiome. It may help improve gut function, enhance nutrient absorption, and bolster the immune system, promoting overall well-being.

How it helps

Placebo-controlled trials involving 40 healthy adults and 50 obese adolescents demonstrated the effects of *L. salivarius* strains on the gut microbiota. In adults, supplementation with *L. salivarius* CECT5713 increased fecal lactobacilli counts. In obese adolescents, supplementation with *L. salivarius* Ls-33 for 12 weeks resulted in higher ratios of *Bacteroides-Prevotella-Porphyromonas* group to *Firmicutes*-related bacteria [R, R].

L. salivarius increases the diversity and balance of the gut microbiome, which improves gut health and overall immune function.

36

Bifidobacterium Breve

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a Bifidobacterium breve supplement according to the product's specific instructions, usually 1-2 capsules daily with water, ideally before meals for better absorption. This regimen should be followed for at least 2-4 weeks to start observing benefits.

TYPICAL STARTING DOSE

10 billion CFU

Description

Bifidobacterium breve is another probiotic strain that can contribute to digestive health and support a balanced gut microbiome. People use *B. breve* as a supplement to improve skin health and combat allergies and infection.

Bifidobacterium breve is a probiotic species found in human breast milk and the gastrointestinal tracts of infant and adult humans. As an individual ages, the total population of B. breve within their gut decreases [R].

People use *B. breve* as a supplement to improve skin health and combat allergies and infections [R, R, R].

How it helps

Bifidobacterium breve supplement helps replenish healthy bacteria in your gut, improving its diversity. This can maintain the balance of microbiomes, improving digestion and boosting immunity.

In a placebo-controlled trial of 71 allergic infants, supplementation with a synbiotic (*B. breve* M-16V and fructo-oligosaccharides) for 8 weeks improved the fecal microbiota This synbiotic taken for 12 weeks modulated the intestinal microbiota in a placebo-controlled trial of 90 intants with this condition. Another synbiotic with long-chain fructo-oligosaccharides and *B. breve* M-16V increased *Bifidobacteria* while reducing *Enterobacteriaceae* in a placebo-controlled trial of 153 infants delivered through C-section [R, R, R].

37

Lactobacillus Delbrueckii and S. Thermophilus

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a probiotic supplement that contains Lactobacillus delbrueckii and Streptococcus thermophilus. Follow the dosage instructions on the product label, typically once daily, preferably with meals or as directed by your healthcare provider. Continue this regimen for at least 4 to 8 weeks to evaluate its effects.

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus Delbrueckii and S. Thermophilus are types of bacteria that are good for your body, especially your gut. These bacteria are usually found in yogurt and other fermented foods. They help digest food, fight off harmful bacteria, and maintain a healthy balance in your digestive system.

How it helps

In a non-placebo-controlled trial of 79 healthy subjects, consuming regular yogurt (with *L. delbrueckii* and *S. thermophilus*, both fresh and heat-treated) for 15 days increased lactic acid bacteria and *C. perfringens* while reducing *Bacteroides* [R].

L. delbrueckii and *S. thermophilus* are both probiotics, which help increase the abundance and diversity of your gut bacteria.

38

Intermittent Fasting

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Limit your daily eating to a specific window of time, typically within an 8-hour period such as from 12 pm to 8 pm, and fast for the remaining 16 hours of the day. Repeat this daily or for at least 3-4 days per week.

Description

Intermittent fasting is an eating pattern that involves cycling between periods of fasting and eating. It may help with weight management, improve metabolic health, and offer potential benefits for certain health conditions when done under proper guidance.

Intermittent fasting (IF) is a pattern of eating that alternates between periods of eating and fasting. The most popular IF method is called the 16/8 method, where you fast for 16 hours and eat during an 8-hour window.

People mainly practice IF to lose weight. Besides benefits related to weight reduction, IF may help lower the risk of [R]:

- Alzheimer's disease
- Joint pain
- Asthma
- Multiple sclerosis
- Stroke

Some types of intermittent fasting, such as Ramadan fasting, are also practiced for religious reasons.

How it helps

In a non-placebo-controlled trial of 90 participants, food intake restricted to the early part of the day, but not to the middle part of the day, improved fasting glucose, reduced total body mass and adiposity, ameliorated inflammation, and increased gut microbial diversity [R].

Intermittent fasting may help by inducing self-digesting cycles and starvation periods, which can boost the variety of gut bacteria.

39

Schisandra

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take schisandra supplements in the form of capsules or powder. For general well-being, consume 1 to 3 grams of the powder daily, or as per the capsule product's instructions, typically ranging from 250mg to 500mg taken twice daily. It's recommended to follow this regimen for several months to observe benefits, always under the guidance of a healthcare professional.

TYPICAL STARTING DOSE

1 g

Description

Schisandra is a plant native to East Asia and is traditionally used in herbal medicine. Schisandra berries contain a variety of compounds, including lignans and antioxidants. These berries have been used for centuries in traditional Chinese medicine to promote overall health, boost energy, and support liver function.

How it helps

In a placebo-controlled trial of 28 obese women, supplementation with dried schisandra fruit (6.7 g/day) for 12 weeks increased the abundance of *Bacteroides* and *Bacteroidetes* while reducing *Ruminococcus* [R].

Schisandra may boost beneficial bacteria types in the gut.

40

Bifidobacterium Lactis HN019

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

TYPICAL STARTING DOSE

10 billion CFU

Description

Bifidobacterium animalis is a probiotic bacterium that can be found in the healthy gut of most mammals, including humans. *B. lactis* was previously considered to be a separate species but was shown to be a subspecies of *B. animalis* [R, R].

People mainly take *B. animalis* to support gut health [R, R, R, R, R, R].

B. lactis HN019 is a strain known for its resilience to stomach acid and bile, which allows it to survive the harsh conditions of the gastrointestinal tract and colonize the gut effectively. It may help improve gastrointestinal function, alleviate symptoms of irritable bowel syndrome, enhance immune response, and reduce the risk of certain infections.

How it helps

In a placebo-controlled trial of 20 elderly volunteers, consuming 250 mL/day skim milk with *Bifidobacterium lactis* HN019 (6.5 x 1^7-5 x 10^9 cfu/day) for 4 weeks significantly increased the number of resident *Bifidobacterium*, *Lactobacillus*, and *Enterococcus* while reducing the enterobacteria counts [R].

41

L. Rhamnosus HN001 and B. lactis HN019

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus rhamnosus HN001 is a probiotic strain originally isolated from dairy products. Research suggests that *L. rhamnosus* HN001 can have several beneficial impacts, particularly in the areas of digestive health and immune system support.

People mainly take *L. rhamnosus* HN001 to help with:

- IBS
- Diarrhea
- Respiratory infections
- Eczema
- Anxiety
- Depression

B. animalis ssp lactis HN0019 is a probiotic bacterium that can be found in the healthy gut of most mammals, including humans. *B. lactis* was previously considered to be a separate species but was shown to be a subspecies of *B. animalis* [R, R].

B. lactis HN019 is a strain known for its resilience to stomach acid and bile, which allows it to survive the harsh conditions of the gastrointestinal tract and colonize the gut effectively. It may help improve gastrointestinal function, alleviate symptoms of irritable bowel syndrome, enhance immune response, and reduce the risk of certain infections.

How it helps

In a placebo-controlled trial of 474 infants, a probiotic combining *L. rhamnosus* HN001 and *B. animalis* subsp. *lactis* HN019 increased gut microbiota functional capacity to transport glycerol-3 phosphate [R].

42

Yacon

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate yacon, which is a sweet-tasting root vegetable, into your diet by consuming 1-2 teaspoons of yacon syrup with meals daily to benefit from its prebiotic and blood sugar-lowering properties. Alternatively, yacon root can be eaten raw, baked, or made into tea. It's recommended to start with smaller amounts to assess tolerance.

Description

Yacon is a root vegetable native to South America and is used as a natural sweetener due to its high content of fructooligosaccharides. Yacon syrup or powder is often consumed for its potential prebiotic effects, promoting gut health and supporting weight management.

How it helps

Consuming orange juice with 10 g fructo-oligosaccharides from yacon daily for 30 days increased *Bifidobacterium* counts while lowering *Clostridium*, enterobacteria, and fecal pH in a placebo-controlled trial of 48 healthy volunteers [R].

Yacon is rich in fructooligosaccharides, a type of prebiotic that feeds the beneficial bacteria in your gut.

43

Prune Essence Concentrate

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 30 milliliters of prune essence concentrate daily, ideally in the morning. It can be consumed directly or diluted in a glass of water. Continue this routine daily for at least 4 weeks to assess its benefits.

Description

Prune essence concentrate is a concentrated form of prune juice that retains the nutritional benefits of prunes, including dietary fiber and sorbitol. It is known for its potential to support digestive regularity and provide a natural source of energy.

How it helps

Prune Essence Concentrate contains both soluble and insoluble fibers that support your gut health by enhancing the diversity of your microbiome. It also contains polyphenols, a type of antioxidant, which can further promote a healthy and diverse gut microbiota.

In a study with 60 mild hypercholesterolemic subjects, consuming prune extract concentrate (PEC) for 4 weeks increased Bifidobacterium and Lactobacillus colony numbers but decreased Clostridium perfringens and Escherichia coli levels [R].

44

Orange Juice

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Consume 8-ounces (about 240 milliliters) of orange juice daily, preferably in the morning with breakfast. This routine can be followed every day as part of a balanced diet for an indefinite period.

Description

Orange juice is a citrus beverage made from the juice of oranges. It is a rich source of vitamin C and other essential nutrients, contributing to immune support, skin health, and overall well-being.

How it helps

Orange juice is rich in dietary fiber and a specific type of sugar, called pectin, that supports growth of beneficial gut bacteria, thereby improving gut microbiome diversity. Also, its vitamin C content aids in boosting the body's immunity, which is crucial for gut health.

In an 8-week study, participants were randomly assigned to two groups: one consumed flavonoid-rich orange juice (FR, 600 mg flavonoids daily), and the other consumed low-flavonoid orange cordial (FL, 108 mg flavonoids daily). After FR treatment, there was an increase in certain Lachnospiraceae family members [R].

Following a randomized crossover design, healthy subjects consumed 500 mL of orange juice daily from Cara Cara or Bahia juices or an isocaloric control drink. The major shift observed in microbiota composition after orange juice intake was the increased abundance of a network of Clostridia OTUs from Mogibacteriaceae, Tissierellaceae, Veillonellaceae, Odoribacteraceae, and Ruminococcaceae families [R].

45

Oyster Mushroom

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Consume 600 mg to 1.2 grams of oyster mushroom extract in supplement form daily, ideally divided into two or three doses. Continue this routine for 1 to 2 months to evaluate its effects on your health.

TYPICAL STARTING DOSE

600 mg

Description

Oyster mushrooms (pleurotus ostreatus) are a popular and edible species of mushroom grown all over the world, rich in protein, fiber, B-vitamins, vitamin D, postassium, iron, and selenium. They have been used in Chinese medicine for their potential benefits toward immune function. They are eat today for being nutritious and a source of antioxidants.

How it helps

In a non-placebo-controlled trial of 8 elderly participants, consuming oyster mushrooms increased the abundance of bifidobacteria and short-chain fatty acid production [R].

Oyster mushrooms are rich in prebiotic fibers like beta-glucans that feed beneficial gut bacteria, promoting a diverse microbiome.

46

Lactoferrin

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 100-200 mg of lactoferrin supplement per day, preferably on an empty stomach to enhance its absorption. Continue this regimen daily for 8 to 12 weeks to observe beneficial effects.

TYPICAL STARTING DOSE

100 mg

Description

Lactoferrin is a protein found in milk and other bodily fluids that has been studied for its potential health benefits, including immune system support and antimicrobial properties. It plays a role in promoting gut health.

Lactoferrin is a protein found in milk. It can bind to iron and travel all around the body [R].

Lactoferrin may help support [R, R]:

- Immunity
- Iron status

How it helps

Lactoferrin can aid gut health by nurturing beneficial bacteria, helping increase microbiome diversity. Also, its anti-inflammatory properties can prevent disruptions to the gut microbiome, leading to better gut health.

A double-blind randomised, cross-over trial with 12 healthy males found that lactoferrin (standard bovine lactoferrin or InferrinTM, 200 mg or 600 mg for 2-4 weeks) l**owered CD69+ activation on the CD4+ cells** for the 200 mg dose. **Changes in phylum-level microbial community** profiling were detected post-supplementation, especially with InferrinTM [R].

However, in a randomized placebo-controlled crossover clinical trial with 54 human immunodeficiency virus-infected participants recombinant human lactoferrin did **not change interleukin-6 or D-dimer levels, monocyte/T-cell activation, mucosal integrity, or intestinal microbiota diversity** [R].

47

L. Rhamnosus HN001 and L. Acidophilus NCFM

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus rhamnosus HN001 is a probiotic strain originally isolated from dairy products. Research suggests that *L. rhamnosus* HN001 can have several beneficial impacts, particularly in the areas of digestive health and immune system support.

People mainly take *L. rhamnosus* HN001 to help with:

- IBS
- Diarrhea
- Respiratory infections
- Eczema
- Anxiety
- Depression

L. acidophilus NCFM is a specific strain that may help relieve diarrhea, improve gut health, and boost the immune system. It can be taken as a supplement or found in some yogurts and other fermented foods.

How it helps

Consuming cheese with *L. rhamnosus* HN001 and *L. acidophilus* NCMF improved the intestinal microbiota, mainly affecting specific subpopulations of intestinal *lactobacilli* and *C. difficile* in a non-placebo-controlled trial of 31 elderly volunteers [R].

48

Oligonol

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 100 mg of Oligonol supplement daily, preferably with a meal to enhance absorption. Continue this regimen consistently for at least 8 to 12 weeks to observe potential benefits.

TYPICAL STARTING DOSE

100 mg

Description

Oligonol is a supplement derived from lychee fruit and green tea that contains antioxidants, potentially offering health benefits such as improved skin health and cardiovascular support.

How it helps

In a placebo-controlled trial of 38 patients with NAFLD, supplementation with oligonol for 24 weeks reduced the MRI-PDFF and the abundance of pathogenic bacteria such as *Dorea*, *Romboutsia*, *Erysipelotrichaceae* UCG-003, and *Agathobacter*, while increasing SCFA-producing bacteria such as *Akkermansia*, *Lachnospira*, *Dialister,* and *Faecalibacterium* [R].

Oligonol may help promote a balanced gut microbiome by reducing inflammation and oxidative stress in the gastrointestinal tract.

49

Avocado

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate half to one whole avocado into your daily diet. You can add it to salads, sandwiches, or use it as a healthy fat substitute for spreads or dressings.

Description

Avocado is a nutrient-dense fruit known for its creamy texture and healthy monounsaturated fats. It is packed with vitamins, minerals, and dietary fiber, and may support heart health, skin health, and overall nutrition.

Avocado is a fruit first cultivated in Mexico in 500 BCE [R, R].

You can eat it raw in salads, sandwiches, and dips. Avocado oil has recently become popular, but it's much less nutritious than the whole fruit.

Avocado is rich in antioxidants, vitamins, minerals, and fiber. It may support [R]:

- Heart health
- Healthy weight
- Healthy aging

How it helps

Avocados are rich in dietary fiber and healthy fats, which can aid in digestion and provide necessary nutrients to beneficial gut bacteria, promoting gut microbiome diversity. By fostering a diverse gut microbiome, avocados can help manage digestive disorders and enhance overall gut health.

In a non-placebo-controlled trial of 163 overweight and obese adults, consuming 1 avocado/day for 12 weeks **increased α diversity and enriched Faecalibacterium, Lachnospira, and Alistipes between 26% and 65%** [R].

50

Bacillus Coagulans MTCC5856

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a supplement containing Bacillus coagulans MTCC5856 at a dose of 2 billion CFUs (colony forming units) once daily, either in the morning or evening, with or without food. Continue this regimen daily for a period of at least 4 to 8 weeks to assess its benefits on digestive health.

Description

Bacillus coagulans MTCC5856 is a specific strain of probiotic bacteria known for its potential to support digestive health and immune function. It's used in probiotic supplements to promote gut microbiome balance.

How it helps

Bacillus Coagulans MTCC5856 is a probiotic that benefits Gut Microbiome Diversity by introducing beneficial bacteria to your gut. This can help to rebalance your gut flora, which can improve digestion and overall health.

In a placebo-controlled trial of 30 healthy volunteers, supplementation with *B. coagulans* MTCC 5856 (2 x 10^9 cfu/day) for 28 days increased the abundance of *Prevotella*, *Faecalibacterium*, *Blautia*, *Megasphaera*, and *Ruminococcus* [R].

51

Bifidobacterium Lactis Bi-07

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

TYPICAL STARTING DOSE

10 billion CFU

Description

Bifidobacterium animalis is a probiotic bacterium that can be found in the healthy gut of most mammals, including humans. *B. lactis* was previously considered to be a separate species but was shown to be a subspecies of *B. animalis* [R, R].

People mainly take *B. animalis* to support gut health [R, R, R, R, R, R].

B. lactis Bi-07 is a strain that may help reduce the risk of diarrhea, improve gut health, and boost the immune system. It can be taken as a probiotic supplement or found in yogurts and fermented foods.

How it helps

In a placebo-controlled trial of with healthy adults aged 25-65, supplementation with xylo-oligosaccharide, *Bifidobacterium lactis* Bi-07, or their combination for 21 days improved bowel movements, vitality, happiness, and plasma HDL concentrations. Bi-07 also influenced gut microbiota (by significantly increasing *B. lactis* counts) and immune markers (lower lipopolysaccharide-stimulated IL-4 secretion in whole-blood cultures and salivary IgA content). The synbiotic combination showed potential for additional health benefits, including immune function modulation (by reducing the expression of CD19 on B cells) [R].

52

Blackcurrant Supplement

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a blackcurrant supplement containing 300mg of blackcurrant extract daily, preferably with a meal to enhance absorption. Continue this regimen for at least 8 weeks to observe potential benefits.

Description

Blackcurrant supplements are often used to harness the health benefits of blackcurrants in a convenient form. They can provide a concentrated source of antioxidants and nutrients that support various aspects of well-being.

Black currant oil contains between 150-200mg of GLA per gram.

How it helps

The study investigated the effects of First Leaf (FL) and Cassis Anthomix 30 (CAM30, black currant extract) on the colonic microbiota in healthy individuals. Consumption of FL and CAM30 increased lactobacilli and bifidobacteria populations while decreasing Clostridium spp. and Bacteroides spp. It also reduced the activity of β-glucuronidase, a potential risk factor for colorectal cancer, and lowered fecal pH, suggesting potential prebiotic benefits for gut health [R].

53

Dragon Fruit

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate dragon fruit into your diet by eating it raw or adding it to salads, smoothies, or yogurt. Aim for consuming dragon fruit 2-3 times a week to enjoy its benefits. Simply slice it in half and scoop out the flesh to eat.

Description

Dragon fruit is a colorful tropical fruit rich in antioxidants, vitamins, and fiber. Consuming dragon fruit as part of a balanced diet can support overall nutritional wellness and may offer benefits such as improved digestion and skin health.

How it helps

In a placebo-controlled trial of 107 healthy volunteers, consuming 8 g/day dragon fruit oligosaccharides **promoted beneficial gut microbes. It increased *Bifidobacterium* by 8.41% and *Faecalibacterium* by 1.99%, while lowering *E. coli* by 8.44%** [R].

Dragon fruit is high in fiber which can promote a diverse gut microbiome by stimulating the growth of beneficial bacteria. The beneficial bacteria aid digestion, boost immunity, and help maintain overall good health.

54

Raspberries

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate a half cup to one cup of fresh or frozen raspberries into your daily diet. You can add them to your breakfast cereal, blend them into a smoothie, or snack on them throughout the day.

Description

Raspberries are a type of berry native to Europe and Asia, known for their high vitamin C and dietary fiber content. They have astringent properties, can support immune health, and aid in digestion.

How it helps

Raspberries are high in dietary fiber, which acts as a fuel source for beneficial gut bacteria, thus improving your gut microbiome diversity. They also contain phytochemicals that have been linked to a healthy gut microbiome.

In individuals with prediabetes and insulin resistance, supplementation with red raspberries (RRB) improved hepatic insulin resistance and reduced total and LDL cholesterol. Adding fructo-oligosaccharide (FOS) to RRB further improved β-cell function. RRB alone increased Eubacterium eligens and decreased Ruminococcus gnavus, while RRB + FOS increased Bifidobacterium spp. and decreased Blautia wexlerae in the gut microbiota. These changes were associated with metabolic improvements, suggesting potential benefits of (poly)phenol/FOS-microbial interactions on host metabolism [R].

55

Bifidobacterium Infantis 35624

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Bifidobacterium infantis 35624 is available in several forms, including capsules, tablets, powder, and liquid. The recommended dosage may vary depending on the specific product and individual health needs, but a common dosage range is between 1 to 10 billion CFU/day. Probiotic supplements should generally be taken with or after meals to improve stability and absorption. If taking the powder form, it can be mixed with water or food. For specific health concerns, such as gut issues or IBS, dosage recommendations may differ, so professional guidance is recommended.

Description

Bifidobacterium infantis 35624 is a specific strain of beneficial bacteria that is naturally found in the human gut, particularly in infants.

This strain is known for its ability to support digestive health and immune function. Research suggests that *B. infantis* 35624 can help maintain a healthy balance of gut microbiota, alleviate symptoms of irritable bowel syndrome, reduce inflammation, and improve overall gut function. It has also been studied for its potential to promote the development of the gut microbiome in infants, particularly in those born via C-section or who are not breastfed.

As a probiotic supplement, *B. infantis* 35624 is commonly used to support digestive health and improve symptoms of gut-related disorders.

How it helps

In a placebo-controlled trial of 76 patients with IBS, supplementation with *B. infantis* 35624 for 8 weeks improved the abundance of this strain in the gastrointestinal tract, without affecting the abundance of other taxa [R].

56

Fucoidan

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 300 mg of fucoidan supplement once daily, preferably with a meal to aid absorption. Continue this regimen for a minimum of four weeks to evaluate its effects on your health.

TYPICAL STARTING DOSE

300 mg

Description

Fucoidan is a compound found in certain brown seaweeds and marine plants, and it is consumed for its immune system support and anti-inflammatory effects.

How it helps

In a placebo-controlled trial of 106 participants with chronic superficial gastritis, supplementation with wheat peptides and fucoidan for 45 days increased the abundance of *Bifidobacterium pseudocatenulatum*, *Eubacterium siraeum*, and *Bacteroides intestinalis*, while decreasing *Prevotella copri* [R].

Fucoidan has prebiotic properties, which may stimulate the growth of beneficial bacteria in the gut.

57

Lactobacillus Johnsonii

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a Lactobacillus johnsonii supplement daily with a glass of water, preferably on an empty stomach or before meals. The dosage varies, but a common amount is 10 billion CFUs (colony forming units). Continue this regimen for at least four weeks to observe benefits.

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus Johnsonii is a beneficial probiotic strain that can support digestive health and contribute to a balanced gut microbiome. It may help improve gut function, enhance nutrient absorption, and bolster the immune system, promoting overall well-being.

How it helps

Consuming milk fermented with *L. johnsonii* La1 increased the abundance of beneficial *Bifidobacterium* and *Lactobacillus* bacteria in the gut of women and infants [R, R].

L. johnsonii may help by colonizing the digestive tract with beneficial bacteria, contributing to a healthier balance and improved overall gut health.

58

Cocoa

IMPACT 1 / 5

EVIDENCE 0 / 5

How to implement

Incorporate 30-60 grams of high-quality dark chocolate (with at least 70% cocoa content) into your daily diet. Enjoy it as a snack or dessert to reap the potential heart health benefits.

Description

Cocoa comes from the beans of the *Theobroma cacao* tree. It is found any many foods and drinks, and people have also used it as a medicine for thousands of years. The numerous active components of cocoa can help with weight control, fatigue, mood, and digestion, among others.

Cocoa comes from the beans of the *Theobroma cacao* tree. It's often used for making chocolate, hot chocolate, and pastries. People have also used it as a medicine for over a thousand years [R, R].

Cocoa contains many active components that likely help [R, R, R, R]:

- Control weight
- Lower fatigue
- Boost mood
- Improve digestion
- Balance blood sugar
- Support heart health

Note that pure cocoa is likely a healthier choice than chocolate. If you eat chocolate, choose dark chocolate with more cocoa and less sugar and fat.

How it helps

Cocoa is rich in polyphenols, a type of antioxidant, which fosters the growth of good bacteria and promotes diversity in the gut microbiome. This improves digestion and boosts overall health.

In a study, adults consuming 30g of 85% cocoa chocolate for 3 weeks saw reduced negative mood, higher gut microbial diversity, elevated Blautia obeum, and reduced Faecalibacterium prausnitzii levels. The gut-brain axis may play a role in dark chocolate's mood-altering effects [R].

59

Lime Flowers

IMPACT 0 / 5

EVIDENCE 1 / 5

How to implement

Take lime flower supplements in the form of tea by steeping 1-2 teaspoons of dried lime flowers in a cup of boiling water for 10-15 minutes. Drink this tea 2-3 times daily. For standardized extracts, follow the manufacturer's instructions on dosage.

Description

Lime flowers, also known as linden or Tilia flowers, are the flowers of the linden tree. They are often used in traditional herbal remedies and teas due to their soothing properties. Additionally, lime flowers are rich in antioxidants, making them a valuable addition to a holistic wellness routine, supporting overall health and well-being

People drink tea made from lime flowers to help with:

- Anxiety
- Insomnia
- Respiratory infections

How it helps

In an uncontrolled trial of 5 healthy volunteers, incubating linden flower extracts with their gut microbiota **increased the abundance of bacteria responsible for SCFAs production** [R].

60

Lactobacillus Delbrueckii

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take a supplement containing Lactobacillus delbrueckii at a dosage as advised on the product packaging, usually once daily. It is typically found in probiotic supplements or dairy products enriched with probiotics. Consistency is key, so take it at the same time each day, preferably with a meal for the best absorption and efficacy.

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus delbrueckii is a beneficial probiotic strain that can support digestive health and contribute to a balanced gut microbiome. It may help improve gut function, enhance nutrient absorption, and bolster the immune system, promoting overall well-being.

Lactobacillus delbrueckii is a bacterium widely used in the production of yogurt and other fermented dairy products [R].

As a probiotic, people mainly take *L. delbrueckii* to boost the immune system. This helps fight and prevent infections [R, R, R].

How it helps

In a non-placebo-controlled trial of 79 healthy subjects, consuming regular yogurt (with *L. delbrueckii* and *S. thermophilus*, both fresh and heat-treated) for 15 days **increased lactic acid bacteria and *C. perfringens* while reducing *Bacteroides*** [R].

L. delbrueckii helps to enhance gut microbiome diversity by adding beneficial bacteria to the intestinal environment.

61

Avoid Refined Sugar

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Eliminate foods and beverages high in refined sugars, such as sodas, candies, pastries, and white bread, from your diet. Replace them with natural sugars found in fruits and whole grains. Implement this change immediately and maintain it indefinitely for long-term health benefits.

Description

Reducing the consumption of refined sugar and high-sugar foods can help prevent dental problems, manage blood sugar levels, and support weight management.

How it helps

Excessive intake of refined sugar may lead to an imbalance in gut bacteria. Reducing its consumption can help maintain gut microbial diversity.

62

Eat Fiber-Rich Foods

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Incorporate foods high in fiber, such as fruits, vegetables, whole grains, and legumes, into your daily meals. Aim for a total dietary fiber intake of 25 to 30 grams per day, spread out over all meals.

Description

Fiber is a type of carb that your body can’t digest which supports digestion, heart health, and blood sugar control. You can get fiber by eating things like whole grains, fruits, nuts, seeds, and leafy greens.

Fiber is a type of carb that your body can’t digest. It supports digestion, heart health, blood sugar control, and more [R, R].

Adults should get 28 g of fiber every day. Most people in the US don’t get enough fiber [R, R].

You can get more fiber by eating [R, R]:

- Whole grains
- Fruits
- Leafy greens
- Nuts and seeds
- Beans
- Broccoli

Fiber supplements, such as psyllium husk, are available for people who don’t get enough fiber from their diets [R, R].

How it helps

Dietary fiber is crucial for maintaining a healthy gut microbiome. It feeds beneficial gut bacteria and promotes their growth, leading to increased microbiome diversity.

63

Inulin

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take 5 grams of inulin supplement daily, mixing it with water, other beverages, or food. It can be taken all at once or divided into smaller doses throughout the day. Start with a lower dose to assess your tolerance and gradually increase. Continue taking inulin daily for at least 4-8 weeks to assess its benefits on gut health.

TYPICAL STARTING DOSE

5 g

Description

Inulin is a type of dietary fiber found in certain plants. It can support digestive health by promoting the growth of beneficial gut bacteria and aiding regular bowel movements.

How it helps

Inulin is a fiber that acts as a prebiotic, feeding and promoting the proliferation of beneficial gut microbes, which is essential for microbiome diversity.

64

Legumes

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Incorporate a serving of legumes, such as beans, lentils, chickpeas, or peas, into your diet at least four times a week. A serving size is approximately half a cup cooked. Ensure to prepare them properly by soaking and rinsing beans, if applicable, to reduce anti-nutrients and improve digestibility.

Description

Legumes, such as beans, lentils, and chickpeas, are excellent sources of plant-based protein, fiber, and various vitamins and minerals. Including legumes in your diet can promote satiety and support digestive health.

Legumes are plants from the *Fabaceae* family. Their edible seeds are called **pulses**. Legumes are important food staples and sources of carbohydrates, fiber, protein, iron, and other key nutrients.

Common legumes include:

- Peanuts
- Beans
- Chickpeas
- Peas
- Lentils

How it helps

Legumes are high in fibers and resistant starches, which are metabolized by gut bacteria, thus enhancing microbiome diversity.

65

Whole Grains

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Incorporate at least three servings of whole grains into your daily diet. This can include consuming foods such as whole grain bread, brown rice, whole grain pasta, and oats. Aim to replace refined grains with whole grains at each meal for optimal benefits.

Description

Whole grains encompass a variety of grains like wheat, oats, and quinoa, where the entire grain kernel is intact. They are rich in fiber, vitamins, minerals, and antioxidants, supporting heart health and reducing the risk of chronic diseases.

Unlike refined grains, whole grains contain nutritious parts of the grain like bran and germ.

Whole grains provide many crucial nutrients, including:

- Fiber
- B-vitamins
- Iron
- Magnesium
- Phosphorus

Due to their high fiber content, whole grains don’t tend to spike blood sugar like refined grains do.

How it helps

Whole grains are a good source of dietary fiber and non-digestible carbohydrates that serve as prebiotics, stimulating the growth of beneficial bacteria in the gut.

66

Fruits And Vegetables

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Increase your intake of fruits and vegetables to at least five servings per day, aiming for a variety of types and colors to ensure a broad range of nutrients. Each serving size should roughly be the amount you can fit in one hand. Try to incorporate at least one serving of fruits or vegetables into every meal and snack throughout the day.

Description

A diet rich in fruits and vegetables provides essential nutrients, antioxidants, and dietary fiber. This combination supports overall health, helps maintain a healthy weight, and reduces the risk of chronic diseases such as heart disease and certain cancers.

How it helps

Consuming a variety of fruits and vegetables provides a spectrum of fibers and phytochemicals that support diverse gut bacteria.

67

Psyllium

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take 5 grams of psyllium husk powder with at least 8 ounces of water. Do this once daily, preferably in the morning before breakfast. Continue this regimen daily for ongoing digestive health benefits.

TYPICAL STARTING DOSE

5 g

Description

Psyllium is a plant-based dietary fiber derived from the seeds of the Plantago ovata plant. It is primarily used both traditionally and today, as a dietary supplement due to its high soluble fiber content, aiding in digestive health and regulating bowel movements. The main compounds in psyllium are soluble fiber and mucilage.

Psyllium husk might be beneficial for gut health and heart health. But what exactly is this supplement and how does it work?

Psyllium is an herb that grows around the world. Its “husk,” the outer coating of the psyllium seed, is full of fiber. The health benefits of psyllium husk are due to this fiber.

How it helps

Psyllium is a soluble fiber that serves as a prebiotic; it can stimulate the growth of beneficial gut bacteria and promote microbiome diversity.

68

Lactobacillus Rhamnosus HN001

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

L. rhamnosus HN001 is available in various forms, including capsules, powders, and sometimes as an ingredient in fermented dairy products like yogurts and kefirs. Typically, doses range from 1 billion to 10 billion colony-forming units (CFUs) per day. It is often recommended to start with a lower dose and gradually increase it to gauge how your body responds. Consistency is key. Taking *L. rhamnosus* HN001 regularly can help maintain its effectiveness.

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus rhamnosus HN001 is a probiotic strain originally isolated from dairy products. Research suggests that *L. rhamnosus* HN001 can have several beneficial impacts, particularly in the areas of digestive health and immune system support.

People mainly take *L. rhamnosus* HN001 to help with:

- IBS
- Diarrhea
- Respiratory infections
- Eczema
- Anxiety
- Depression

How it helps

In a placebo-controlled trial of 474 infants, a probiotic combining *L. rhamnosus* HN001 and *B. animalis* subsp. *lactis* HN019 increased gut microbiota functional capacity to transport glycerol-3 phosphate [R].

A probiotic combining *L. rhamnosus* HN001 and *B. longum* BB536 increased the abundance of *Blautia producta, Blautia wexlerae* and *Haemophilus ducrey* while decreasing *Holdemania filiformis, Escherichia vulneris, Gemmiger formicilis,* and *Streptococcus sinensis* in a placebo-controlled trial of 20 healthy volunteers. This combination decreased the *Bacteroidetes*-to-*Firmicutes* ratio in a placebo-controlled trial of 34 breast cancer survivors [R, R].

Consuming cheese with *L. rhamnosus* HN001 and *L. acidophilus* NCMF improved the intestinal microbiota, mainly affecting specific subpopulations of intestinal *lactobacilli* and *C. difficile* in a non-placebo-controlled trial of 31 elderly volunteers [R].

69

Alanylglutamine

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take alanylglutamine as a dietary supplement by mixing the prescribed dose, typically around 1 to 3 grams, into a beverage of your choice, such as water or juice. Consume this mixture once daily, preferably post-exercise or as directed by a healthcare professional.

TYPICAL STARTING DOSE

1 g

Description

Alanylglutamine is a dipeptide composed of the amino acids alanine and glutamine. It is used as a dietary supplement and is believed to support gut health and recovery from exercise.

How it helps

Alanylglutamine can help in maintaining gut barrier function and provide support for the beneficial bacteria in the gut.

70

Xylo-oligosaccharides

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take xylo-oligosaccharides (XOS) as a dietary supplement in doses typically ranging from 1.4 to 2.8 grams per day. This can be consumed either in a single dose or divided into two doses throughout the day. It is usually found in powder form that can be mixed into water, juice, or added to food. Continue daily for at least 4 to 8 weeks to observe potential benefits.

TYPICAL STARTING DOSE

2 g

Description

Xylo-oligosaccharides are a type of prebiotic fiber found in fruits and vegetables. They serve as food for beneficial gut bacteria, promoting gut health and aiding in digestive regularity.

How it helps

Xylo-oligosaccharides have a prebiotic effect that can increase the bifidobacteria population, potentially improving gut microbiome diversity.

71

Lactobacillus Plantarum

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take a probiotic supplement containing *Lactobacillus plantarum* 299V daily. The typical dosage is 10 billion colony-forming units (CFUs). Continue for at least 4 weeks to assess benefits on digestive health.

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus plantarum is a probiotic bacterium found in many fermented plant products such as sauerkraut, pickles, brined olives, and Korean kimchi [R].

People take *L. plantarum* supplements to improve [R, R, R, R]:

- Diarrhea
- Skin appearance
- IBD
- High cholesterol

How it helps

Lactobacillus plantarum is a probiotic strain that supports gut health by increasing the number of beneficial gut bacteria, improving the diversity of the gut microbiome.

72

Bacillus Coagulans

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take a Bacillus coagulans supplement containing 1 to 2 billion CFUs (colony forming units) daily, with a glass of water, preferably with meals. This routine should be consistently followed for at least four weeks to potentially see benefits.

Description

Bacillus coagulans is a probiotic strain believed to support digestive health and boost the immune system. It's used in various probiotic supplements and may aid in maintaining gut balance.

How it helps

Taking Bacillus Coagulans can boost the diversity of your gut microbiome, as it acts as a probiotic, introducing beneficial bacteria. This can help to improve overall gut health and digestion.

73

Strawberries

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Incorporate a serving of strawberries, which is approximately eight medium-sized strawberries (about 1 cup or 150 grams), into your daily diet. You can enjoy them as a snack, add them to your breakfast cereal or oatmeal, blend them into smoothies, or use them as a topping for salads and desserts.

Description

Strawberries are a delicious fruit rich in vitamin C, antioxidants, and dietary fiber. They provide essential nutrients and are associated with various health benefits, including improved immune function and heart health.

Strawberries (*Fragaria ananassa*) are one of the most consumed berries, both fresh and processed in juices, jams, yogurts, and desserts [R].

Strawberries have a high content of antioxidants and vitamins, such as [R, R]:

- Vitamin C
- Folate
- Flavonoids

How it helps

Strawberries are rich in fiber and polyphenols, which can promote the diversity of your gut microbiome by nourishing beneficial gut bacteria. Their antioxidants may help reduce inflammation and protect your gut lining, which can promote overall gut health.

Consuming a strawberry-supplemented beige diet for 6 weeks in 15 healthy adults led to changes in 24 operational taxonomic units (OTUs). Strawberries increased OTUs related to lean body weight, health, and longevity while also increasing fecal lithocholic acid. Comparing weeks 4 to 6 showed a reversal in the same OTUs [R].

74

Probiotic Dairy

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Incorporate probiotic-rich dairy products, such as yogurt or kefir, into your diet daily. Aim to consume at least one serving, which typically ranges from 100 to 200 grams, per day.

Description

Probiotic dairy products, such as yogurt and kefir, contain live beneficial bacteria that support gut health and digestion, as well as the immune system, blood sugar, and mood. These products are rich in probiotics, calcium, and protein.

Probiotic bacteria are “good” bacteria found mainly in the large intestine. They support your body and mind by [R, R, R, R, R, R, R, R]:

- Maintaining gut health
- Supporting a healthy immune system
- Improving your mood
- Helping to maintain healthy blood sugar

Probiotics can be taken as supplements. They can also be added to dairy products like milk and yogurt [R, R].

How it helps

Probiotic dairy contains live microorganisms which can contribute to the diversity of gut microbiota when ingested in sufficient amounts.

75

Bifidobacterium Longum

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take a Bifidobacterium longum supplement daily, with a typical dosage around 10 billion colony-forming units (CFUs). It can be consumed any time of day, but taking it with a meal might improve its absorption and effectiveness. Continue this regimen for at least 4 weeks to assess its benefits on digestive health.

TYPICAL STARTING DOSE

10 billion CFU

Description

Bifidobacterium longum is a beneficial probiotic strain known for its potential to support digestive health and boost the immune system.

Bifidobacterium longum is a probiotic bacterium naturally present in the human gastrointestinal tract. Its subspecies *B. longum subsp. infantis* is one of the earliest bacteria to colonize the infant gut [R].

People take *B. longum* to enhance immunity against infections and support gut health [R, R, R].

How it helps

Bifidobacterium longum is a probiotic that supports the overall health of the gut microbiome and may increase its diversity.

76

Akkermansia

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take Akkermansia muciniphila as a supplement in capsule form, usually one capsule per day. It is best consumed with a glass of water, preferably in the morning. Follow this routine for a duration as advised by a healthcare provider, but commonly for a period of at least 8 to 12 weeks to observe potential benefits.

Description

Akkermansia is a type of gut bacteria that resides in the human digestive system. It has been studied for its potential role in gut health and its association with metabolic and immune functions.

How it helps

Akkermansia is a strain of probiotic shown to help maintain the gut lining, and this may have a positive impact on microbiome health and diversity.

77

Rehmannia

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take rehmannia in capsule form, with the usual dose being between 250 to 500 mg daily. It's best consumed with water, after meals to minimize digestive discomfort. Consult with a healthcare professional for personalized advice, especially if you have pre-existing conditions or are on other medications.

TYPICAL STARTING DOSE

250 mg

Description

Rehmannia (Rehmannia glutinosa) is a medicinal plant native to East Asia and the root of the plant has been used traditionally for centuries in China and Korea for various health purposes. Rehmannia contains various compounds, including iridoid glycosides and catalpol, which may provide benefits for kidney and gland health.

How it helps

In an uncontrolled trial of 12 obese women, supplementation with rehmannia for 8 weeks reduced waist circumference and increased the abundance of *Actinobacteria* and *Bifidobacterium* while decreasing *Firmicutes* and *Blautia* [R].

78

Bacillus Clausii

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take Bacillus clausii as an oral probiotic supplement, usually found in liquid or capsule form. For adults and children, the typical dosage is one or two capsules (or one or two vials of liquid, if using that form) daily. The duration of use can vary; some may take it for a few weeks during or after antibiotic treatment, while others might use it for longer periods to support digestive health.

Description

Bacillus causii is a type of beneficial bacteria that can be found in probiotic supplements, potentially contributing to digestive health and a balanced gut microbiome.

How it helps

As a probiotic, Bacillus clausii can support the gut microbiome by enhancing the survival and growth of beneficial bacterial species.

79

Resistant Starch

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Incorporate 40g of Jo's resistant starch into your daily diet. This can be done by adding it to smoothies, yogurt, or baked goods. Ensure to spread the intake throughout the day for better tolerance.

TYPICAL STARTING DOSE

40 g

Description

Resistant starch is a type of starch that resists digestion in the small intestine, making it a prebiotic fiber that can benefit gut health. It can be found in foods like green bananas, legumes, and certain grains.

Resistant starch is starch that doesn't get digested in the small intestine [R, R].

Some types of resistant starch include [R]:

- **Type 1** occurs naturally in foods such as whole grains
- **Type 2** can be isolated from foods such as corn and green banana
- **Type 3** is created during the cooking and cooling process of starchy foods like potatoes

Resistant starch doesn't increase blood sugar like typical digestible starches do [R, R].

Instead, it feeds good bacteria in the colon that [R, R]:

- Support healthy gut function
- Support immunity
- Reduce inflammation

How it helps

Resistant starch acts as a prebiotic in the gut, providing food for beneficial bacteria and enhancing the microbiome diversity.

80

Alpha-Ketoglutarate (AKG)

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take alpha-ketoglutarate (AKG) as a dietary supplement in a dose of approximately 1-2g per day, preferably with meals to aid in its absorption. The exact dosage may vary based on the specific product and individual health needs, so it's important to follow the label instructions or consult a healthcare provider for personalized advice. This supplementation can be ongoing, with periodic evaluations to assess its effects on your health.

TYPICAL STARTING DOSE

1 g

Description

Alpha-ketoglutarate (AKG) is a key molecule in the Krebs cycle, crucial for energy production in cells. It plays a role in amino acid synthesis and nitrogen transport. In supplement form, it's claimed to improve athletic performance and support recovery, but the scientific evidence for these benefits is limited.

How it helps

AKG may support the function of the digestive system and improve the intestinal innate immunity by controlling intestinal microbiota [R].

81

Regular Sleep Schedule

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Go to bed and wake up at the same time every day, even on weekends and holidays. This helps regulate your body's internal clock, leading to better sleep quality. Aim for 7-9 hours of sleep per night.

Description

Maintaining a regular sleep schedule involves going to bed and waking up at consistent times each day. This practice helps regulate the body's internal clock and promotes better sleep quality, mood, and cognitive function.

How it helps

A consistent sleep routine can positively affect gut microbiome diversity as disruptions in circadian rhythms have been associated with imbalances in gut bacteria.

82

Dietary Selenium

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Incorporate selenium-rich foods into your daily diet, such as Brazil nuts, seafood, and organ meats. Eating 1-2 Brazil nuts a day can meet the daily selenium requirement for most adults.

Description

Selenium is a trace mineral found in various foods, including nuts, seeds, and seafood. It is an essential nutrient that plays a crucial role in maintaining the body's antioxidant defenses and supporting thyroid function.

Selenium supports [R]:

- Reproduction
- Thyroid function
- DNA production
- Immune response

Adults should be getting **55 micrograms** of selenium per day. Good sources of selenium include [R]:

- Brazil nuts
- Fish
- Meat
- Eggs
- Rice
- Oatmeal

How it helps

Selenium plays a crucial role in gut health and has been associated with increased microbial diversity due to its antioxidant properties and support of immune function.

83

Fructooligosaccharides (FOS)

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take 3 to 10 grams of fructooligosaccharides (FOS) supplement per day, preferably with meals. Start with a lower dose to assess your tolerance and gradually increase to avoid digestive discomfort. This supplement can be taken indefinitely as part of your daily routine to support gut health.

TYPICAL STARTING DOSE

3 g

Description

Fructooligosaccharides are a type of prebiotic fiber found in various fruits and vegetables. They support gut health by nourishing beneficial gut bacteria, promoting digestive regularity, and potentially enhancing overall well-being.

How it helps

FOS act as a prebiotic, stimulating the growth of healthy gut bacteria, thereby enhancing the diversity of the microbiome.

84

Bifidobacterium Animalis Subsp. Lactis

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take a supplement containing Bifidobacterium animalis subsp. lactis at a dose of 10 billion colony-forming units (CFU) daily, with or without food. Joe's preferred strain is *B lactis* HN019 (10B CFU). Continue this regimen daily for at least 2 weeks to 4 weeks to observe potential benefits.

TYPICAL STARTING DOSE

10 billion CFU

Description

Bifidobacterium animalis lactis is a specific strain of probiotic bacteria known for its potential to support digestive health and immune function.

Bifidobacterium animalis is a probiotic bacterium that can be found in the healthy gut of most mammals, including humans. *B. lactis* was previously considered to be a separate species but was shown to be a subspecies of *B. animalis* [R, R].

People mainly take *B. animalis* to support gut health [R, R, R, R, R, R].

How it helps

This probiotic contributes to a healthy gut by increasing beneficial bacteria, possibly improving microbiome diversity.

85

Fermented Dairy

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Incorporate fermented dairy products like yogurt, kefir, or aged cheeses into one or two of your daily meals. For example, you could have yogurt with breakfast and add kefir to your smoothie for an afternoon snack. This practice should be maintained consistently as part of your diet.

Description

Fermented dairy products like yogurt and kefir contain beneficial probiotic bacteria that can support gut health and enhance digestion. They are also excellent sources of calcium and protein.

Food fermentation is a traditional food preservation method. Fermented foods may support gut and skin health [R, R].

Food can be fermented by microbes that are naturally found in the product or by adding microbes (a starter culture) [R].

Fermented dairy products include [R, R, R]:

- Yogurt
- Kefir
- Cheese
- Buttermilk

How it helps

Fermented dairy products, such as yogurt and kefir, contain probiotics that can boost gut flora diversity.

86

Acacia Fiber

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take 5-10 grams of acacia fiber supplement per day, mixed with at least 8 ounces of water. Do this daily, preferably in the morning, for ongoing gut health support. Be sure to start with a lower dose to assess tolerance and gradually increase to the desired amount.

TYPICAL STARTING DOSE

5 g

Description

Acacia fiber is a soluble dietary fiber derived from the gum of the Acacia tree. It is often used as a natural thickening agent in foods and supplements and can promote digestive health by supporting regular bowel movements, and serve as a prebiotic.

How it helps

Acacia fiber is a prebiotic that can help to promote the growth of beneficial bacteria in the gut, thereby supporting microbiome diversity.

87

Streptococcus Thermophilus

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take a supplement containing Streptococcus thermophilus according to the product's label, typically once or twice daily with a glass of water. It is commonly found in probiotic supplements and the exact dosage can vary, so following the manufacturer's guidelines is essential. Continue use as part of your daily routine or as directed by a health professional.

TYPICAL STARTING DOSE

10 billion CFU

Description

Streptococcus thermophilus is a probiotic bacterium used in the fermentation of dairy products like yogurt. It contributes to improved gut health by aiding in the digestion of lactose and promoting the growth of beneficial gut bacteria.

How it helps

Streptococcus thermophilus helps in improving gut microbiome diversity by introducing beneficial bacteria into your digestive system. The more variety of good bacteria in your gut, the better your digestion and overall health.

88

Lactobacillus Rhamnosus

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take a probiotic supplement containing Lactobacillus rhamnosus. Typically, the suggested dose is 10 billion CFUs (colony-forming units) per day. This can be taken as a single daily dose or divided into two doses, morning and evening, with or without food. Continue this regimen for at least 4 weeks to observe benefits.

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus rhamnosus is a beneficial probiotic strain that can support digestive health and contribute to a balanced gut microbiome. It may help improve gut function, enhance nutrient absorption, and bolster the immune system, promoting overall well-being.

Lactobacillus rhamnosus is a probiotic bacterium, part of the normal gut microflora. Various foods may have added *L. rhamnosus*, including yogurt, cheese, and fermented legumes [R, R].

People take *L. rhamnosus* supplements to balance their immune system and help with infections, allergies, and dermatitis [R].

How it helps

Lactobacillus rhamnosus helps to maintain a healthy balance of gut flora and contribute to a diverse gut microbiome.

89

Bacillus Subtilis

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take a probiotic supplement containing Bacillus subtilis at a dose recommended by the manufacturer, typically once daily with a glass of water, preferably on an empty stomach for optimal absorption. Continue this regimen daily for at least one to two months to evaluate its benefits.

Description

Bacillus subtilis is a beneficial bacteria strain commonly used in probiotic supplements to support digestive health and maintain a balanced gut microbiome. Incorporating probiotics containing bacillus subtilis may promote better gut function.

How it helps

This probiotic bacterium helps to populate the gut with beneficial organisms and enhance microbiome diversity.

90

Bifidobacterium Longum BB536

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

B. longum BB536 is available in several forms, including capsules, powders, and chewables. The typical dosage for *B. longum* BB536 is around 10 billion colony-forming units (CFUs) per day, depending on the health objectives and the specific product formulation. It is often recommended to start with a lower dose to assess tolerance before gradually increasing to the desired dose.

TYPICAL STARTING DOSE

10 billion CFU

Description

Bifidobacterium longum BB536 is a well-researched probiotic strain that offers various health benefits. Originating from human gut flora, this strain has a high survival rate through the gastrointestinal tract, enhancing its efficacy.

B. longum BB536 is a versatile probiotic that supports digestive health, strengthens the immune system, and offers antioxidant benefits.

How it helps

A probiotic combining *L. rhamnosus* HN001 and *B. longum* BB536 increased the abundance of *Blautia producta, Blautia wexlerae* and *Haemophilus ducrey* while decreasing *Holdemania filiformis, Escherichia vulneris, Gemmiger formicilis,* and *Streptococcus sinensis* in a placebo-controlled trial of 20 healthy volunteers. This combination decreased the *Bacteroidetes*-to-*Firmicutes* ratio in a placebo-controlled trial of 34 breast cancer survivors [R, R].

91

Galacto-oligosaccharides (GOS)

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take 3.5 to 5.5 grams of galacto-oligosaccharides (GOS) supplement daily, commonly found in powder form. Mix the powder into a glass of water or your preferred beverage and consume. It is advised to continue daily for at least 2 weeks to observe beneficial effects on gut health.

TYPICAL STARTING DOSE

3 g

Description

GOS are a type of prebiotic fiber that can promote gut health by nourishing beneficial gut bacteria. They may help improve digestion, support a healthy immune system, and reduce gastrointestinal discomfort.

How it helps

Galacto-oligosaccharides are prebiotic fibers that can promote the growth of beneficial bacteria and support microbiome diversity.

Next Steps

Remember, your genes only tell one important part of your health story!

Now that you've seen your DNA-based results for this health topic, let's take a look at other contributing factors.

Your lab results

Your lab results are impacted by the combined effect of your genes, environment and lifestyle.

Lab tests will give you the best picture of your current health status, while your genes provide insight into your health predispositions and which recommendations are best for you.