

Leaky Gut

DNA Health Report

REPORT CATEGORY —



GUT HEALTH

Sample Client

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Table of Contents

03 How this works

- 04 Impact
- 05 Evidence
- 06 Some things to keep in mind

07 Introduction

08 Your genetics

09 Your recommendations

18 Next Steps

- 18 Your Lab Results

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.

Personal information

NAME

Sample Client

SEX AT BIRTH

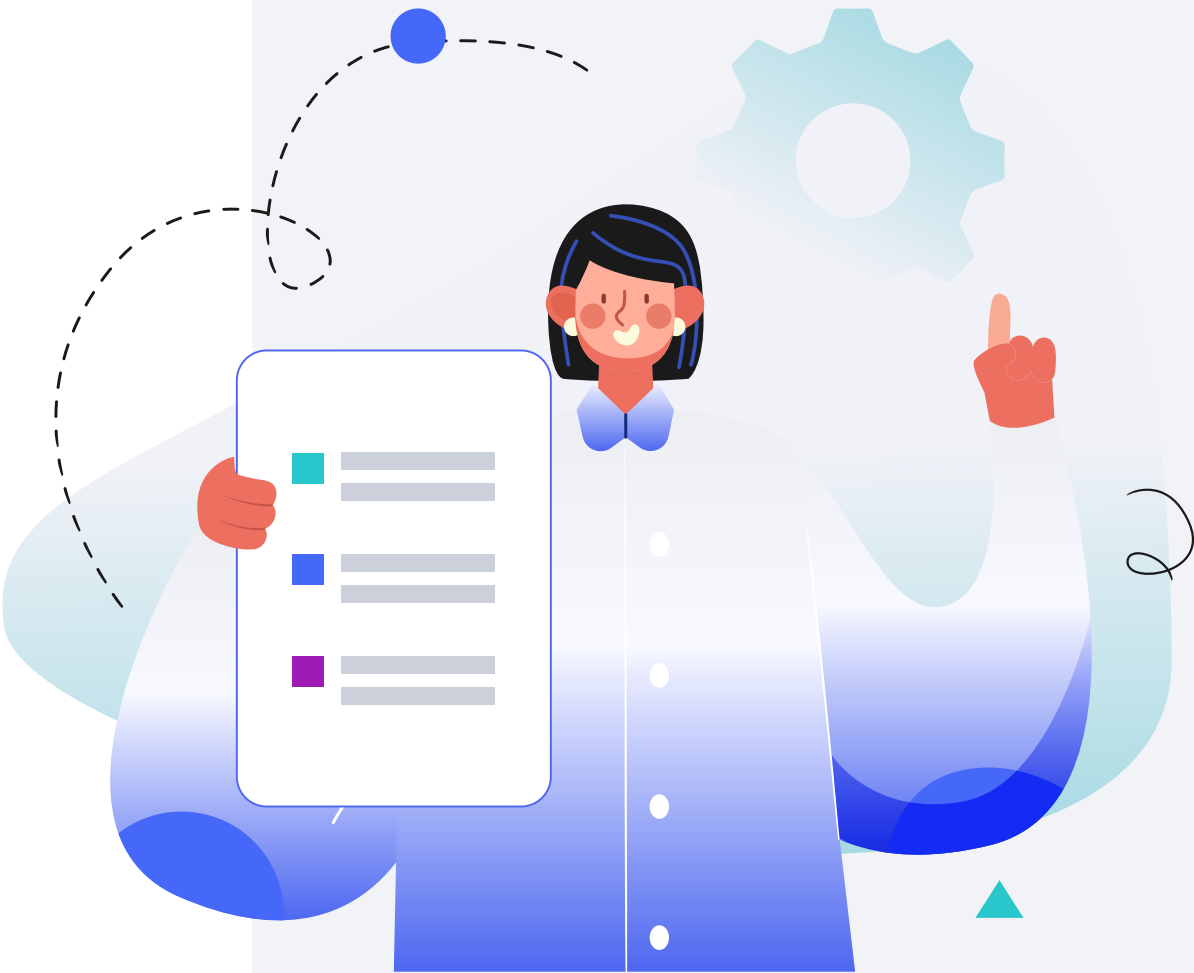
Male

HEIGHT

5ft 5" 165cm

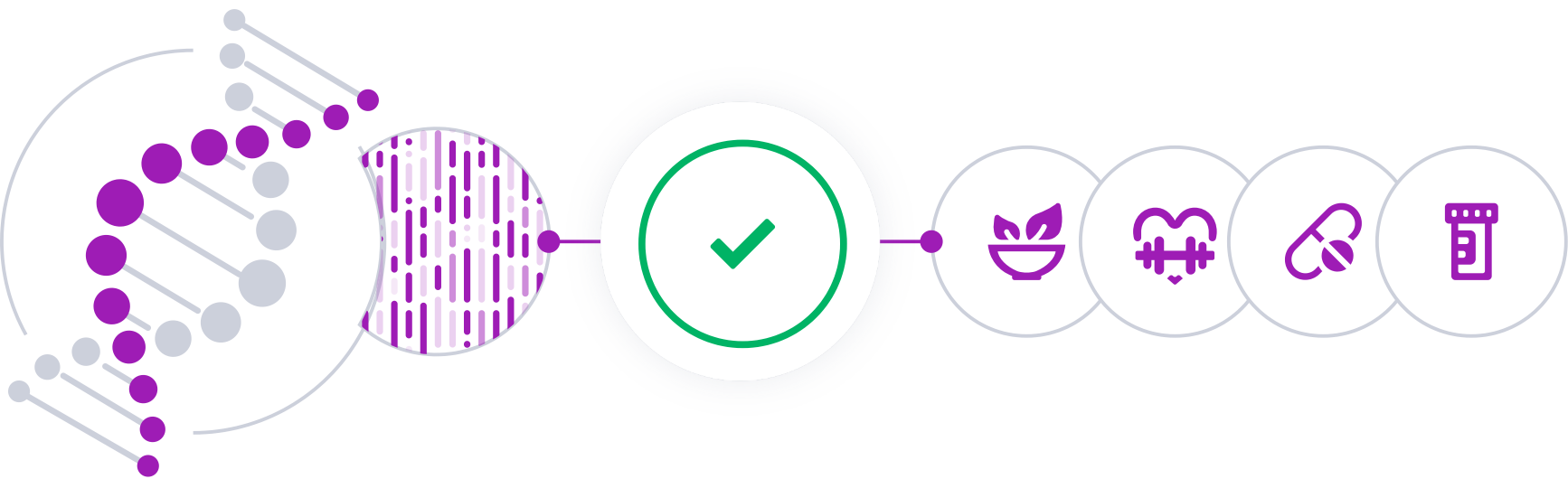
WEIGHT

137lb 62kg



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.

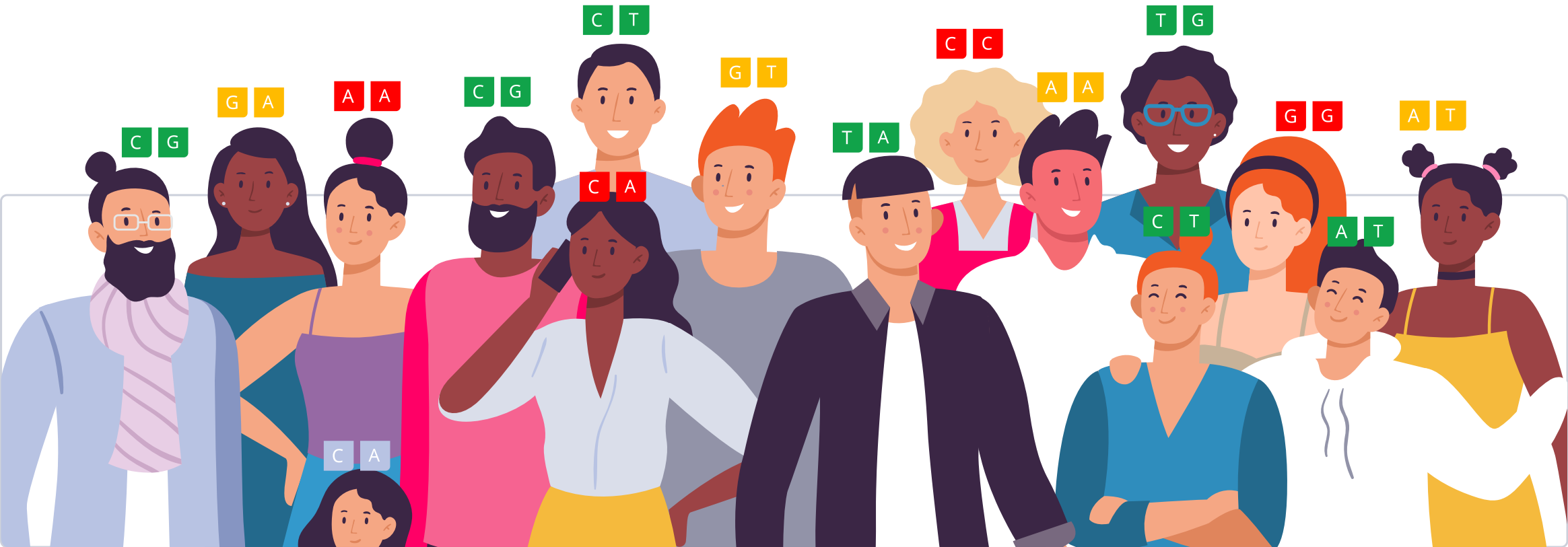


Similarly, our Trait Reports look at how your DNA influences your traits.



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.

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

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



Genotype color info:

AA

You don't have any risk alleles

AA

You have 1 risk allele

AA

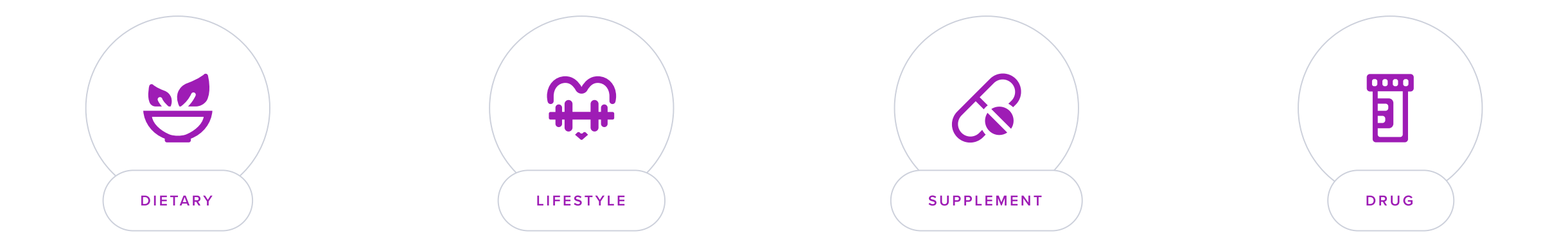
You have 2 risk alleles

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, a few 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

Increased intestinal permeability, also known as "**leaky gut**", occurs when the lining of the small intestine becomes damaged and more permeable. This means that larger, undigested food particles, bacteria, and toxins may enter the bloodstream. Ultimately, this may cause widespread inflammation and potentially trigger an immune response.

Common manifestations of increased intestinal permeability include:

- Bloating.
- Food sensitivities.
- Fatigue.
- Digestive discomfort.
- Chronic diarrhea, constipation, or gas.

Intestinal permeability is also associated with:

- Brain Fog
- Food allergies and intolerance
- Skin problems (e.g., acne or rashes).
- Nutritional deficiencies.
- Joint pain.
- Autoimmune diseases.

Risk Factors and Genetics

Factors that might increase intestinal permeability include:

- Chronic stress.
- Poor diet, particularly high in sugar and low in fiber.
- Infections
- Bacteria imbalance in the gut (dysbiosis)
- Autoimmune diseases.
- Excessive alcohol consumption.
- Drugs (e.g., painkillers, antibiotics, chemotherapy).
- Radiation therapy

Genetics may also influence intestinal permeability.

Certain individuals might have a genetic predisposition for a more susceptible gut lining. For example, conditions such as celiac disease, which has a clear genetic component, can increase the risk of a leaky gut [\[R\]](#).



TYPICAL

Likely typical intestinal permeability based on 16 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
BRD1	rs9616637	GG
/	rs7337023	CC
/	rs75673924	TT
STAB2	rs1993919	AA
LYZL1	rs73596019	CC
ADAMTS1	rs9967959	GG
PID1	rs10179193	TT
KCNJ6	rs857958	GG
GNMT	rs41274896	AA
RAB28	rs4834946	CT
AATK	rs11650927	AG
BUD13	rs1784128	GA
/	rs1907608	GA
COL6A1	rs1883048	CT
GRIN3A	rs10119861	CC
ASIC2	rs2346689	AA

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

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	Colostrum	20 g	2	Alanylglutamine	1 g
3	Lactoferrin	100 mg	4	CBD	10 mg
5	Plantains (Green Bananas)		6	Montmorillonite	
7	Alpha-Ketoglutarate (AKG)	1 g	8	Agmatine	1 g
9	Methylsulfonylmethane (MSM)	1 g			

1



Colostrum

IMPACT1 / 5

EVIDENCE2 / 5

How to implement

Take colostrum supplements orally, typically 20 to 60 grams daily, split into two to three doses. It is recommended to start with a lower dose and gradually increase as needed. This supplement can be taken for varying durations, from a few weeks to several months, depending on the health goals and responses observed.

TYPICAL STARTING DOSE

20 g

Description

Colostrum is the first milk produced by mammals, including humans, after giving birth. It is rich in nutrients and antibodies and is believed to support newborns' immune systems and overall health.

Colostrum, or “first milk,” is the very first type of milk produced right after a mammal gives birth. It supports the newborn’s immune system and provides a rich source of nutrients and growth factors [R].

People take colostrum to boost immunity and exercise performance [R].

How it helps

In a double-blind study of 16 athletes in peak training, 500 mg of colostrum for 20 days reduced intestinal permeability, especially in those with higher baseline levels. Colostrum proved safe and effective. Another study highlighted the importance of colostrum collection within 2-24 hours post-delivery for optimal effectiveness in reducing permeability. However, bovine colostrum (1.7 g/kg/day for 7 days) didn't enhance exercise performance or affect cytokines in individuals exercising in heat. Zinc and colostrum treatments improved gut permeability and epithelial resistance after exercise. Spray-dried defatted colostrum prevented a 3-fold increase in permeability from indomethacin in volunteers, possibly protecting against NSAID-induced gastrointestinal damage. Yet, it had a limited impact on patients with already low permeability [R, R, R, R, R].

2



Alanylglutamine

IMPACT

1 / 5

EVIDENCE

1 / 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

In a placebo-controlled trial of 140 children from a low-income community, supplementation with alanylglutamine (3-12 g/day) promoted a short-term improvement in gut integrity [\[R\]](#).

In 2 non-placebo-controlled trials of HIV patients, supplementation with alanyl-glutamine (24 g/day) for 7 days improved gut integrity while reducing diarrhea and gastrointestinal symptoms [\[R\]](#), [\[R\]](#).

3



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

In a study with 15 healthy volunteers, a test assessed gastroduodenal and small intestine permeability as an indicator of NSAID-induced gastroenteropathy. Subjects ingested recombinant human lactoferrin or a placebo, followed by NSAID indomethacin. Small intestine permeability was lower with lactoferrin (0.028) compared to placebo (0.036), suggesting lactoferrin may help reduce NSAID-induced hyperpermeability-associated disorders [\[R\]](#).

4



CBD

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a CBD supplement in a dosage ranging from 10 to 40 milligrams per day. Start with the lowest dose and gradually increase it based on your body's response. This can be taken orally in the form of capsules, edibles, or oil drops under the tongue. For ongoing issues, such as anxiety or chronic pain, it may be used daily, while for acute issues, it might be used as needed.

TYPICAL STARTING DOSE

10 mg

Description

CBD is a non-psychoactive compound found in cannabis plants and is used in various forms, including oils and creams. It may have potential benefits for pain relief, anxiety reduction, and overall relaxation, although more research is needed to fully understand its effects.

[Cannabidiol](#) (CBD) is a compound found in cannabis. Unlike its cousin THC, CBD is not psychoactive and can’t get you “high” [\[R\]](#).

People use CBD to:

- Reduce anxiety [\[R, R\]](#)
- Relieve pain [\[R, R, R\]](#)
- Prevent seizures [\[R\]](#)
- Improve sleep [\[R\]](#)

How it helps

Both CBD and palmitoylethanolamide (PEA) reduced inflammation-induced intestinal permeability in a placebo-controlled trial. They mitigated the effects of aspirin on gut absorption, suggesting the potential for treating conditions like inflammatory bowel disease [\[R\]](#).

Please note: *CBD can interact with medications and raise the levels of liver enzymes. It may not be safe for pregnant women. Never use CBD without consulting your doctor. Also, make sure to verify the legality of CBD in your country or state [\[R, R, R, R, R\]](#).*

5



Plantains (Green Bananas)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate unripe (green) plantains into your diet by boiling, steaming, or baking them and consuming them as a side dish or mashed as an alternative to potatoes. Aim for at least one serving (approximately one medium-sized plantain) daily for a continuous period to support digestive health and provide resistant starch that may help manage blood sugar levels.

Description

Plantains are starchy fruits closely related to bananas, originating from tropical regions around the world. They are a valuable dietary source of complex carbohydrates, fiber, and essential vitamins and minerals like vitamin C, vitamin A, and potassium, contributing to digestive health, immune support, and heart function when incorporated into a balanced diet.

How it helps

In a study with 57 boys (5-12 months) suffering from persistent diarrhea, a diet with green banana or pectin improved intestinal permeability, reducing lactulose recovery and increasing mannitol recovery. This led to a 50% reduction in stool weight, indicating their antidiarrheal effects [\[R\]](#).

6



Montmorillonite

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take montmorillonite clay as a supplement by ingesting 1 to 2 teaspoons mixed with water, once daily. It's often recommended to consume on an empty stomach, either 1 hour before a meal or 2 hours after meals. Be sure to increase your water intake when using montmorillonite clay to help with its absorption and effectiveness.

Description

Montmorillonite is a natural clay mineral often used in skincare and detoxification products due to its ability to absorb impurities and toxins from the skin or digestive tract.

How it helps

In a non-placebo-controlled trial of 58 patients with Henoch-Schönlein purpura, supplementation with montmorillonite helped maintain gut barrier function [\[R\]](#).

7



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 protect the gut by supporting the integrity and function of the intestinal barrier. It plays a role in the synthesis of glutamine, an amino acid crucial for the health of intestinal epithelial cells. Glutamine is a primary fuel source for these cells, promoting their growth and maintaining mucosal integrity.

AKG also assists in reducing inflammation in the gut, which may protect against conditions like “leaky gut”, where the intestinal barrier becomes compromised. Furthermore, its potential antioxidative properties may protect gut cells from oxidative stress, a factor in various gastrointestinal disorders.

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

It may also help protect against gut epithelial and mucosal damage and improve IBD-related changes in animal models [\[R\]](#), [\[R\]](#).

8



Agmatine

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take agmatine as a dietary supplement in a dose of 1.6 to 6.4 milligrams per kilogram of body weight, daily. It can be consumed with or without food. For best results, continue taking it on a daily basis for at least two weeks to assess its effect on your body.

TYPICAL STARTING DOSE

1 g

Description

Agmatine is a naturally occurring compound found in the human body and in certain foods. It is sometimes used as a dietary supplement and is believed to have potential benefits for pain relief, mood regulation, and cognitive function.

How it helps

Agmatine may reduce gut inflammation and permeability by modulating the immune response and maintaining the integrity of the intestinal barrier. It can inhibit the production of pro-inflammatory cytokines, reducing inflammation. Agmatine also strengthens tight junctions in the gut lining, decreasing permeability and inflammation.

A study aimed to investigate the protective effect of agmatine (AGM) on gastric ischemia-reperfusion (I/R) injury in rats. AGM reduced vascular permeability, inflammation, and preserved gastric tissue integrity, possibly through Akt/PI3K pathway mediation [\[R\]](#).

Supplementation with an **AGM metabolite, putrescine**, improved intestinal health in weanling pigs by reducing diarrhea and enhancing intestinal integrity. In cell studies, putrescine promoted cell growth and migration while suppressing inflammation. These findings suggest a potential role for putrescine in promoting intestinal health in neonates [\[R\]](#).

Putrescine serves as an energy source in small bowel metabolism. In rats, it is taken up and converted to succinate in the small intestine, with increased utilization during fasting and growth stimulation, highlighting its dynamic role in gut function [\[R\]](#).

9



Methylsulfonylmethane (MSM)

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take 1 to 3 grams of Methylsulfonylmethane (MSM) per day, divided into three doses. This can be in the form of capsules or powder that is mixed with water. It is recommended to start with a lower dose to assess tolerance, then gradually increase to the desired dose over a period of 1 to 2 weeks.

TYPICAL STARTING DOSE

1 g

Description

MSM is a naturally occurring sulfur compound found in foods and used in dietary supplements. It has anti-inflammatory properties and may be used to support joint health and reduce exercise-related muscle soreness.

A molecule of MSM is broken down in the body into a sulfate (sulfur) group and two methyl groups.

The following may increase people’s needs for sulfur and methyl groups: physical activity, recovery from injuries, inflammation, infections/sickness, toxins, etc.

People also need more sulfur when taking hormones (DHEA, pregnenolone, etc.), drugs (Aspirin, Tylenol, NSAIDs, birth control, etc.) or supplements (flavonoids & polyphenols - resveratrol, quercetin, curcumin, etc.) that undergo sulfation.

How it helps

Please note: *There is no evidence from controlled clinical trials to support this recommendation. It is included based on uncontrolled clinical trials, animal or cell studies, or non-scientific criteria. Please take this recommendation with a grain of salt until more research is available.*

Researchers suggest that methylsulfonylmethane (MSM) may help rebuild the lining of the digestive tract. According to one theory, it might help stop particles from leaving small junctions. It’s being researched in animals for Leaky Gut Syndrome, [colitis](#), and [inflammatory bowel diseases](#) [\[R\]](#), [\[R\]](#).

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.