Microbiome report

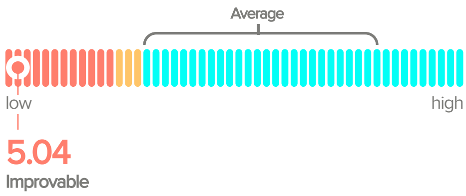
SUPERHUMAN

VITALITY. HEALTH. LONGEVITY.

Sample ID	Sampling	Analysed	Material	Laboratory
33333333	24/03/2025	04/04/2025	Stool	labors.at

1. Microbial health

Microbial diversity



The overall diversity of your gut bacteria could be better. Our tips will help you strengthen your gut microbiome and enhance your health.

Species richness: 203 (Average: 202-322)

Species evenness: 0.66 (Average: 0.72-0.78)

Additional information

The microbial diversity describes the variety of your gut microbiome and is made up of species richness and species evenness. Diversity is the most important parameter for analysing the health of your gut microbiome. It measures how many different bacterial species (species richness) are present in the gut and how evenly they are distributed among the individual species (species evenness).

A bacterial community with high diversity therefore consists of many different species and the individuals are evenly distributed.

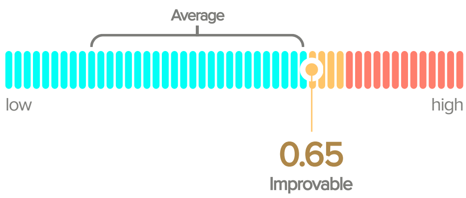
Diversity is calculated using the "Shannon-Index" - the number you see in the graphic. This index takes into account both species richness and evenness (the distribution of individuals among those species). The higher the value, the better!

Research shows that low diversity can be linked to various health problems such as inflammatory bowel disease, obesity, metabolic disorders and autoimmune diseases, among others.

Species richness: Indicates the number of different bacterial species in a stool sample. A high value indicates a high species richness.

Species evenness: Provides information on how balanced the frequency of the different types of bacteria is in your gut. A more even distribution helps to prevent the dominance of a few species, making the microbial community less susceptible to disturbances or adverse changes.

Dysbiosis index



Your gut microbiome is out of balance, indicating dysbiosis. Our tips can help you address this issue, strengthen your gut bacteria, and restore balance to your gut microbiome.

Additional information

Dysbiosis refers to an imbalance in your gut microbiome, where potentially harmful bacteria outnumber beneficial ones. This imbalance can result from various factors, including an unbalanced diet high in ultra-processed foods, lifestyle habits such as chronic stress, lack of physical activity, or insufficient sleep, and the regular use of medication. Certain medical conditions, particularly inflammatory bowel disease, can also increase the risk of dysbiosis. The dysbiosis index quantifies the severity of this imbalance and can be useful for monitoring changes in the microbiome during treatments or dietary adjustments.

Enterotype

Enterotype 3 ("Ruminococcus") is associated with a diet that is balanced and rich in complex carbohydrates, including fibre.

Enterotyp 3: Ruminococcus

Additional information

Enterotype categorise the gut microbiome into three dominant bacterial groups, which form the "basic microbiome" during the early years of life, primarily influenced by genetic factors and dietary habits. There is evidence that your enterotype may influence which foods you can metabolise particularly well and how efficient vitamin production occurs in your gut. Long-term dietary habits, along with age, health status, and medication use, can influence your enterotype.

Please note that this classification and your result indicate only a tendency and the types may overlap.

Enterotype 3

Enterotype 3 is characterised by a predominance of the bacterial genus Ruminococcus. This enterotype is particularly common among individuals with a mixed diet. Ruminococcus bacteria quickly and effectively break down indigestible food components and then convert them into health-promoting substances such as short-chain fatty acids. Ruminococcus bacteria produce more enzymes that can break down indigestible carbohydrates such as fibre and then convert them into energy. However, these bacteria can also harm the intestinal mucosa by breaking down sugar-protein complexes present in it.

Enterotype 1

Enterotype 1 ("Bacteroides") is associated with a diet rich in animal foods.

Enterotype 2

Enterotype 2 ("Prevotella") is associated with a plant-based diet rich in fruits, vegetables, legumes and whole grains.

2. Gut-body interaction

Gut-immune axis

High level of support for your immune system

The composition of your gut bacteria seems to support your immune system well.

Additional information

The gut-immune axis describes the connection and interaction between the gut and the body's immune system. Over 70% of the immune system is located in the gut and is supported by the bacteria living there. Certain bacteria activate immune cells or regulate their activity and produce anti-inflammatory substances such as short-chain fatty acids. The health of your gut microbiome is crucial for a strong immune system.

A stool sample can provide valuable insights into the strength and resilience of your immune system.

Inflammatory potential

There might be inflammation present in your gut. Your inflammation potential is increased. Our tips can help you to increase the number and activity of anti-inflammatory bacteria.

High inflammatory potential

Your result is made up of 4 metabolic pathways for LPS production:

- Sugar building blocks for LPS
- Extended LPS modules
- Surface antigens
- Preliminary stage for LPS

Additional information

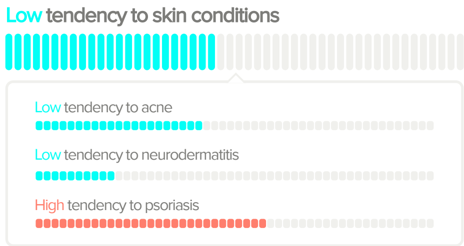
The inflammatory potential in your gut can be calculated using **lipopolysaccharides (LPS)**. LPS are molecules that occur in the cell walls of certain bacteria. Recent research shows how the composition of the gut microbiome (including the types and amounts of LPS-producing bacteria) influences the immune system in the gut.

Certain bacteria can use the metabolic pathways described to produce LPS. If there are too many LPS-producing bacteria in your gut, the potential for inflammation is increased.

In addition, the dysbiosis index and immune strength are important parameters that can influence the inflammatory potential in the gut.

Gut-skin axis

Your gut microbiome seems to support healthy skin.

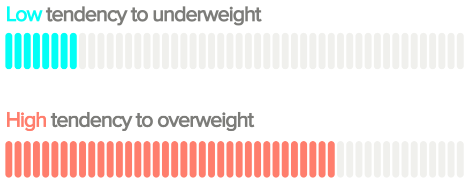


Additional information

The gut-skin axis describes the connection between the gut microbiome and skin health. Skin diseases such as acne, neurodermatitis and psoriasis are often caused by inflammation in the body, which then becomes visible on the surface of the skin. Intestinal bacteria can directly regulate the immune system and inflammatory processes in the body. It is therefore possible to draw conclusions about skin health by analysing the bacteria found in a stool sample.

Weight management

Your intestinal bacteria could help you regulate your weight. If you are pursuing health goals, seek additional individual advice from a healthcare professional.



Additional information

The composition of gut bacteria influences various aspects of metabolism, such as energy production from food. Several studies indicate that gut bacteria play a role in weight regulation. Some bacteria are associated with a lean physique, while others may contribute to obesity.

Your gut may harbour both types of bacteria associated with being underweight and those linked to being overweight.

Other important factors in weight regulation include microbial diversity and short-chain fatty acids produced by bacteria.

3. Gut health

Leaky gut syndrome

High tendency to leaky gut syndrome

The composition of your gut bacteria indicates a possible leaky gut syndrome. If you suffer from digestive problems or symptoms, we recommend that you consult a doctor.

Additional information

Leaky gut syndrome describes an increased permeability of the intestinal mucosa. It controls which substances pass from the gut into the bloodstream. If the intestinal mucosa is impaired, unwanted substances can enter the body and trigger inflammation. To maintain an intact intestinal mucosa, a healthy gut microbiome is key. Beneficial gut bacteria help strengthen the gut barrier and reduce inflammation. Please note that a high diversity is crucial for maintaining a healthy intestinal mucosa.

On the other hand, if your gut bacteria are imbalanced, certain bacteria can proliferate that break down mucosal cells excessively, making the intestinal mucosa more "leaky". This can lead to leaky gut syndrome. An impaired intestinal mucosa is associated with an increased risk of chronic inflammation, food intolerances, autoimmune diseases, irritable bowel syndrome and skin diseases, among other things.

Irritable bowel syndrome

Low tendency to irritable bowel syndrome

There seems to be no connection between your gut bacteria and irritable bowel syndrome.

Additional information

Irritable bowel syndrome (IBS) is a common gastrointestinal disorder characterised by symptoms such as diarrhoea and/or constipation, bloating, and abdominal pain. Studies show that affected individuals often have an unfavourable composition and lower diversity of gut bacteria compared to individuals without IBS. There are numerous causes that can trigger irritable bowel syndrome or acerbate symptoms. Psychological factors, such as stress, appear to play a particularly important role. In addition, malnutrition, nutrient deficiencies, other diseases, toxins, a lack of stomach acid, medication, infections and an imbalance in the gut microbiome are among the potential triggers.

SIBO

High tendency to SIBO

Your gut microbiome indicates a possible bacterial overgrowth in the small intestine. If you are experiencing symptoms, we recommend consulting a doctor.

Additional information

SIBO (Small Intestinal Bacterial Overgrowth) refers to an excessive growth of bacteria in the small intestine. Typically, the small intestine contains far fewer bacteria than the large intestine. In cases of SIBO, however, there is an increased presence of bacteria from the large intestine in the small intestine. This is usually triggered by slower digestion or anatomical changes following surgery. The most common symptoms are bloating, but other digestive disorders and nutrient deficiencies (especially vitamin B12) can also occur.

Research findings show that bacterial overgrowth in the small intestine also has an impact on the composition of the bacteria in the large intestine. A stool sample can therefore provide indications of the possible presence of SIBO. If the result is positive, consider consulting a doctor and carrying out an additional breath test.

Gluten sensitivity

Low tendency to gluten sensitivity

The composition of your gut microbiome provides no evidence of gluten sensitivity. Foods containing gluten do not appear to cause you any symptoms.

Additional information

Gluten sensitivity refers to a reaction to gluten that is not associated with celiac disease (an autoimmune response) or a wheat allergy. Gluten is a protein found in grains such as wheat, spelt, rye and barley. The consumption can lead to digestive issues and symptoms such as chronic fatigue and headaches in individuals with gluten sensitivity.

Based on scientific studies, it is now possible to establish a link between the composition of the gut microbiome and the potential for gluten sensitivity.

4. Well-being

Mental well-being

High tendency to mental imbalance

Your results indicate an imbalance in the gut-brain axis, which may affect mood, stress response, or cognitive function. Our tips can help nurture your microbiome and support better mental well-being.

Additional information

There is a strong connection between mental health and the intestinal microbiome, often referred to as the "gut-brain axis". This means that the bacteria in your gut can communicate with your brain and influence its function. Certain gut bacteria can produce substances like neurotransmitters, metabolites, and hormones that send signals to the brain and influence its function. Changes in their levels can affect mood and play a role in regulating social behavior, depressive-like behavior, and motivation.

The communication between the gut and the brain is bidirectional. This means that not only does the gut influence the brain, but the brain can also impact the gut. For instance, stress or strong emotional states can lead to changes in gut function and disrupt the balance of the gut bacteria.

Physical well-being

High tendency to physical imbalance

Your gut bacteria are showing signs of imbalance, which could be affecting your physical fitness and vitality. Our tips can help you to rebalance your microbiome and support your physical well-being.

Additional information

Regular physical activity can positively influence the composition of your gut microbiome by increasing the diversity of gut bacteria and supporting the growth of health-promoting bacteria that produce short-chain fatty acids. The relationship between exercise and the gut microbiome is reciprocal: not only does physical activity influence the microbiome, but the composition of the gut flora also contributes to exercise performance. Studies have shown that changes in the microbiome through exercise can help to prevent metabolic diseases, strengthen the immune system and promote general well-being. An active lifestyle is therefore crucial to support gut health and physical wellbeing.

5. Metabolic health

Blood sugar regulation

High tendency to unstable blood sugar regulation

Your gut microbiome could better support your insulin sensitivity and blood sugar regulation. Our tips can help strengthen your gut bacteria and improve your blood sugar balance.

Additional information

The gut microbiome plays a crucial role in regulating blood sugar levels by influencing metabolism, insulin sensitivity, and inflammation. Certain beneficial bacteria help break down dietary fibres into short-chain fatty acids (SCFAs), which improve insulin sensitivity and reduce blood sugar spikes. Additionally, the gut microbiome communicates with the endocrine system, influencing the secretion of hormones such as glucagon-like peptide-1 (GLP-1), which enhances insulin release and helps maintain stable blood sugar levels. An imbalance in gut bacteria (dysbiosis) is associated to an increased risk of insulin resistance, type 2 diabetes, and metabolic disorders. By nurturing a diverse and healthy gut microbiome, you can positively impact blood sugar regulation and overall well-being.

Blood pressure regulation

High tendency to dysregulated blood pressure regulation

Your gut microbiome could better support your blood pressure regulation. Our tips can help rebalance your gut bacteria and support heart health.

Additional information

A healthy gut microbiome plays a crucial role in blood pressure regulation. Studies suggest that hypertension may be associated with an imbalanced gut flora and a weakened intestinal barrier, allowing harmful substances to enter the body and trigger inflammation, which further raises blood pressure. Certain bacteria that produce short-chain fatty acids (SCFAs) and have anti-inflammatory effects are often less abundant in people with hypertension. Additionally, gut microbes influence key factors involved in blood pressure regulation, such as angiotensin and nitric oxide signaling.

Gut-liver axis

High tendency to an imbalance in the gut-liver axis

The composition of your gut bacteria indicates a potential imbalance in your gut-liver axis. By following our tips, you can support a healthy microbiome and gut barrier, which in turn helps promote optimal liver function.

Additional information

The gut-liver axis refers to the close connection between the microbiome in the gut and the health of the liver. The two organs are directly connected via the portal vein, which transports substances from the gut to the liver. This direct route means that an imbalance in the gut can have a significant impact on the liver - and vice versa.

Liver diseases such as fatty liver and inflammation are often linked to gut dysbiosis - where there is often a reduction in microbial diversity, an increase in potentially harmful bacteria and a decrease in beneficial bacteria that produce short-chain fatty acids (SCFAs). When the intestinal barrier is weakened, more harmful substances can enter the bloodstream and reach the liver. This can overload the protective functions of the liver and lead to inflammation, an increased immune response, liver damage and an increased risk of infection. This in turn can further increase the permeability of the intestinal barrier and have a negative impact on the microbiome - creating a vicious circle.

Thyroid activity

Your gut bacteria appear to support healthy thyroid function by contributing to nutrient absorption, hormone conversion, and immune balance.

Low tendency to hyperthyroidism

Low tendency to hypothyroidism

Additional information

The gut microbiome is closely linked to thyroid activity, particularly through its influence on the immune system. Gut bacteria play a central role in regulating the immune system, which is instrumental in the development of autoimmune thyroid diseases - such as Hashimoto's thyroiditis (often associated with hypothyroidism) and Graves' disease (often associated with hyperthyroidism).

Changes in the microbiome can lead to a disruption in immune regulation and inflammation, thereby promoting hypothyroidism. It can also impair the absorption of important nutrients such as iodine, selenium, iron and zinc, which are essential for the production of thyroid hormones.

Our own data show that hyperthyroidism in particular appears to result in a loss of microbial diversity in the gut, which significantly impairs immune function and the stability of the intestinal barrier. Reduced diversity could unbalance the immune system to such an extent that it leads to thyroid overactivity.

6. Bacteria lists

F/B ratio

Your F/B ratio: 1.26

Reference (%) 1.08 - 2.03

Bacterium	Frequency (%)	Reference (%)
Bacteroidota	41.57	30.88 - 45.11
Firmicutes	52.46	48.28 - 63.47

Probiotic bacteria

Bacterium	Frequency (%)	Reference (%)
Akkermansia muciniphila	0.00	0.00 - 1.56
Bifidobacterium	0.45	0.03 - 0.66
Bifidobacterium longum	0.19	0.00 - 0.36
Lactobacillus	0.00	0.00 - 0.01

Mucin-producing bacteria

Bacterium	Frequency (%)	Reference (%)
Akkermansia muciniphila	0.00	0.00 - 1.56
Bacteroides fragilis	0.22	0.00 - 0.26

Bacterium	Frequency (%)	Reference (%)
Bacteroides thetaiotaomicron	↑ 0.92	0.02 - 0.65
Bifidobacterium	0.45	0.03 - 0.66
Faecalibacterium prausnitzii	9.56	3.44 - 11.31
Lactobacillus	0.00	0.00 - 0.01

Butyrate-producing bacteria

Bacterium	Frequency (%)	Reference (%)
Anaerostipes	↑ 0.45	0.04 - 0.36
Coprococcus	↓ 0.00	0.06 - 1.90
Eubacterium hallii group	↑ 0.36	0.00 - 0.09
Faecalibacterium prausnitzii	9.56	3.44 - 11.31
Roseburia	↑ 0.36	0.00 - 0.16
Subdoligranulum	1.90	0.30 - 2.50

Sulphate-reducing bacteria

Bacterium	Frequency (%)	Reference (%)
Bilophila	0.17	0.02 - 0.25
Bilophila wadsworthia	0.17	0.00 - 0.24
Desulfovibrio	0.00	0.00 - 0.23

Overview of all bacteria

Phylum	Genus	Frequency (%)	Reference (%)
Firmicutes	Acetanaerobacterium	0.01	No data
Firmicutes	Agathobacter	0.34	No data
Verrucomicrobiota	Akkermansia	0.00	0.00 - 1.94
Bacteroidota	Alistipes	2.48	1.35 - 4.96
Firmicutes	Anaerofilum	0.00	0.00 - 0.01
Firmicutes	Anaerostipes	↑ 0.45	0.04 - 0.36
Firmicutes	Anaerotruncus	0.00	0.00 - 0.01
Bacteroidota	Bacteroides	↑ 36.65	11.89 - 31.62
Bacteroidota	Barnesiella	↓ 0.00	0.13 - 2.04

Phylum	Genus	Frequency (%)	Reference (%)
Actinobacteriota	Bifidobacterium	0.45	0.03 - 0.66
Desulfobacterota	Bilophila	0.17	0.02 - 0.25
Firmicutes	Blautia	0.00	0.00 - 0.16
Firmicutes	Butyricicoccus	0.11	0.11 - 0.47
Bacteroidota	Butyricimonas	↑ 0.72	0.00 - 0.22
Firmicutes	CAG-56	0.00	0.00 - 0.12
Firmicutes	Christensenellaceae R-7 group	↓ 0.00	0.05 - 1.83
Firmicutes	Clostridium sensu stricto 1	0.00	0.00 - 0.11
Firmicutes	Colidextribacter	↑ 0.34	0.05 - 0.19
Actinobacteriota	Collinsella	↓ 0.00	0.02 - 0.22
Bacteroidota	Coprobacter	0.00	0.00 - 0.24
Firmicutes	Coprococcus	↓ 0.00	0.06 - 1.90
Firmicutes	Defluviitaleaceae UCG-011	↑ 0.04	0.00 - 0.03
Desulfobacterota	Desulfovibrio	0.00	0.00 - 0.23
Firmicutes	Dialister	0.00	0.00 - 2.50
Firmicutes	Dielma	↑ 0.05	0.00 - 0.01
Firmicutes	DTU089	↑ 0.03	0.00 - 0.02
Actinobacteriota	Eggerthella	0.03	No data
Firmicutes	Eisenbergiella	↑ 0.56	0.00 - 0.02
Actinobacteriota	Enterorhabdus	↑ 0.02	0.00 - 0.01
Firmicutes	Erysipelatoclostridium	↑ 0.06	0.00 - 0.05
Firmicutes	Erysipelotrichaceae UCG-003	↑ 0.53	0.03 - 0.33
Proteobacteria	Escherichia-Shigella	0.00	0.00 - 0.07
Firmicutes	Eubacterium eligens group	↓ 0.00	0.25 - 2.68
Firmicutes	Eubacterium hallii group	↑ 0.36	0.00 - 0.09
Firmicutes	Eubacterium nodatum group	0.00	0.00 - 0.02
Firmicutes	Eubacterium oxidoreducens group	0.00	0.00 - 0.05
Firmicutes	Eubacterium ruminantium group	0.00	0.00 - 0.13
Firmicutes	Eubacterium siraeum group	↑ 1.86	0.01 - 1.49
Firmicutes	Eubacterium ventriosum group	0.03	0.01 - 0.15

Phylum	Genus	Frequency (%)	Reference (%)
Firmicutes	Eubacterium xylanophilum group	0.00	0.00 - 0.37
Firmicutes	Faecalibacterium	↑ 27.32	6.02 - 15.78
Firmicutes	Family XIII AD3011 group	↑ 0.12	0.00 - 0.08
Firmicutes	Family XIII UCG-001	↑ 0.07	0.00 - 0.03
Firmicutes	Flavonifractor	↑ 0.28	0.00 - 0.06
Firmicutes	Fournierella	0.00	0.00 - 0.01
Firmicutes	GCA-900066575	0.02	0.01 - 0.08
Proteobacteria	Haemophilus	0.00	0.00 - 0.12
Firmicutes	Holdemanella	0.00	0.00 - 0.09
Firmicutes	Holdemania	↑ 0.07	0.00 - 0.05
Firmicutes	Hungatella	0.03	No data
Firmicutes	Hydrogenoanaerobacterium	0.00	0.00 - 0.01
Firmicutes	Intestinibacter	0.02	0.00 - 0.03
Firmicutes	Intestinimonas	↑ 0.18	0.00 - 0.06
Firmicutes	Lachnoclostridium	↑ 1.78	0.15 - 0.82
Firmicutes	Lachnospira	0.91	0.35 - 2.63
Firmicutes	Lachnospiraceae FCS020 group	↓ 0.00	0.03 - 0.37
Firmicutes	Lachnospiraceae NC2004 group	↓ 0.00	0.02 - 1.00
Firmicutes	Lachnospiraceae ND3007 group	↓ 0.00	0.24 - 2.58
Firmicutes	Lachnospiraceae NK4A136 group	0.00	0.00 - 0.28
Firmicutes	Lachnospiraceae UCG-001	↓ 0.00	0.02 - 0.51
Firmicutes	Lachnospiraceae UCG-004	0.05	0.00 - 0.29
Firmicutes	Lachnospiraceae UCG-008	0.00	0.00 - 0.05
Firmicutes	Lachnospiraceae UCG-010	↓ 0.00	0.03 - 0.27
Firmicutes	Lactobacillus	0.00	0.00 - 0.01
Firmicutes	Lactococcus	0.00	0.00 - 0.01
Firmicutes	Marvinbryantia	0.00	0.00 - 0.02
Firmicutes	Merdibacter	0.00	0.00 - 0.01
Firmicutes	Monoglobus	↓ 0.00	0.07 - 0.37
Firmicutes	Moryella	0.00	0.00 - 0.05

Phylum	Genus	Frequency (%)	Reference (%)
Firmicutes	Negativibacillus	0.05	0.00 - 0.08
Firmicutes	NK4A214 group	0.00	0.00 - 0.95
Bacteroidota	Odoribacter	↑ 0.64	0.11 - 0.41
Firmicutes	Oscillibacter	↑ 0.61	0.03 - 0.31
Firmicutes	Oscillospira	0.08	0.00 - 0.11
Proteobacteria	Oxalobacter	0.00	0.00 - 0.03
Firmicutes	Paludicola	2.16	No data
Bacteroidota	Parabacteroides	1.09	0.94 - 3.59
Bacteroidota	Paraprevotella	0.00	0.00 - 0.36
Proteobacteria	Parasutterella	0.17	0.01 - 0.80
Firmicutes	Peptococcus	0.00	0.00 - 0.03
Firmicutes	Phascolarctobacterium	1.23	0.00 - 2.07
Firmicutes	Phocea	↑ 0.01	0.00 - 0.01
Bacteroidota	Prevotella	0.00	0.00 - 11.55
Firmicutes	Pseudoflavonifractor	↑ 0.11	0.00 - 0.01
Firmicutes	Romboutsia	0.00	0.00 - 0.01
Firmicutes	Roseburia	↑ 0.36	0.00 - 0.16
Firmicutes	Ruminococcus	↓ 0.00	0.15 - 1.95
Firmicutes	Ruminococcus gauvreauii group	0.03	No data
Firmicutes	Ruminococcus torques group	↑ 0.16	0.00 - 0.11
Firmicutes	Sellimonas	0.01	No data
Actinobacteriota	Senegalimassilia	0.00	0.00 - 0.02
Actinobacteriota	Slackia	0.00	0.00 - 0.02
Firmicutes	Streptococcus	0.04	0.03 - 0.31
Firmicutes	Subdoligranulum	1.90	0.30 - 2.50
Proteobacteria	Sutterella	↑ 4.04	0.02 - 2.45
Firmicutes	Terrisporobacter	0.00	0.00 - 0.02
Patescibacteria	TM7x	0.01	0.00 - 0.03
Firmicutes	Turicibacter	0.00	0.00 - 0.06
Firmicutes	Tuzzerella	0.02	No data

Phylum	Genus	Frequency (%)	Reference (%)
Firmicutes	Tyzzerella	0.00	0.00 - 0.11
Firmicutes	UBA1819	↑ 0.11	0.00 - 0.05
Firmicutes	UCG-002	↓ 0.00	0.03 - 0.63
Firmicutes	UCG-003	0.09	0.00 - 0.18
Firmicutes	UCG-005	↓ 0.00	0.02 - 0.54
Firmicutes	UCG-009	0.00	0.00 - 0.01
Firmicutes	Veillonella	0.00	0.00 - 0.15
Verrucomicrobiota	Victivallis	0.00	0.00 - 0.24

7. Recommendations

Microbial health

Include fermented foods

Fermented foods provide probiotics that support a balanced gut microbiome, reduce dysbiosis, and enhance digestion. They diversify gut flora, strengthen the gut lining, and lower gut permeability. Regular consumption also boosts immunity and combats inflammation, promoting overall health.

Integrate fermented foods into your meals at least 3-4 times a week:

- (plant based) Yogurt and kefir: Start your day with these in smoothies or in your muesli. Enjoy them as a snack with berries and nuts.
- Sauerkraut and kimchi: Add these tangy side dishes to your meals for extra flavor and nutrition. Opt for vegan kimchi if you're allergic to fish.
- Kombucha: Swap sugary drinks for kombucha as a refreshing alternative.
- Miso: Add miso to soups or use it as a flavor enhancer in dressings. Miso comes in varieties made from soybeans, chickpeas, barley, or rice.

Enterotype 3 – ruminococcus dominant

Enterotype 3 is associated with a mixed diet that includes both animal and plant-based foods. Ruminococcus species are efficient at breaking down resistant starch, so incorporating these starches is beneficial for gut health. A well-rounded diet combining plant-based and animal proteins is key to supporting this enterotype.

Strengthen your microbiome by incorporating resistant starch and varied protein sources:

- Resistant starch: Include cooled potatoes, rice, and legumes in your meals regularly. Resistant starch is also found in cashews, raw oats, and slightly ripe bananas.
- Combine plant and animal proteins: Mix and match proteins for optimal protein utilization. For example: Egg and beans with spinach and potatoes, Beans with sweetcorn, Lentil dal with brown rice, Hummus with wholemeal bread.
- Healthy fats and hydration: Consume beneficial fats like olive oil, sesame seeds, and avocado. Drink plenty of water to prevent constipation, a common issue for this enterotype.

Increase fiber intake

Fiber-rich foods support a diverse microbiome by nourishing beneficial bacteria. Dietary fiber acts as a prebiotic, enhances microbial diversity, reduces dysbiosis, and promotes digestive health. A variety of fiber sources improves bowel regularity and helps prevent gut issues.

Consume a variety of fiber-rich foods daily:

- Whole grains: Incorporate oats, quinoa, and brown rice into your meals.
- Legumes: Add beans, lentils, and chickpeas to salads, soups, and stir-fries.
- Fruits: Enjoy apples, pears, and berries as snacks or desserts.
- Vegetables: Include broccoli, carrots, and spinach in your main dishes or as side options.

Berry millet breakfast bowl

Ingredients:
1 cup cooked millet
1/2 cup mixed berries (blueberries, strawberries, blackberries)
1 tablespoon chia seeds
1 cup almond milk
1-2 teaspoons honey or nut butter (optional)

Preparation:
1. Place cooked millet in a bowl.
2. Add mixed berries and chia seeds on top.
3. Pour almond milk over the mixture.
4. Drizzle with honey or nut butter if desired.

A delightful start to your day, packed with fiber and antioxidants.

Gut-body interaction

Choose healthy fats

Healthy fats, particularly Omega-3 fatty acids, are vital for reducing inflammation and supporting a balanced gut microbiome. These fats contribute to maintaining the integrity of the gut lining and are associated with better skin hydration and texture. Including a variety of healthy fat sources in your diet can enhance nutrient absorption and support the growth of beneficial gut bacteria.

Include healthy fats in your meals regularly:

- Fatty fish: Make salmon, mackerel, or sardines a regular part of your diet.
- Nuts: Snack on a handful of almonds, pistacchios or walnuts, or add them to oatmeal or yogurt for extra crunch.
- Seeds: Sprinkle chia seeds or flaxseeds into smoothies or yogurt for added nutrition and fibre.
- Avocado: Incorporate avocado into salads or sandwiches, or enjoy as a spread on whole-grain bread.

Antibiotic awareness

Antibiotics can promote the growth of pathogenic bacteria, such as Fusobacterium, which can cause inflammation in the body. Unfortunately, antibiotics do not only kill harmful bacteria but also beneficial species.

Discuss antibiotic use with your doctor carefully:

- Evaluate Necessity with your doctor: Consider whether antibiotics are truly necessary for your condition.
- Discuss Alternatives with your doctor: Explore alternative treatments that may be effective without antibiotics.
- Post-Antibiotic Care: Consider probiotics or fermented foods after antibiotic treatment to restore gut health.

Boost b vitamins

Ensure adequate intake of B vitamins to support gut health and promote anti-inflammatory benefits.

Incorporate these B vitamin-rich foods:

- Sunflower Seeds: A great source of B vitamins, perfect for snacking or adding to salads.
- Eggs: A versatile ingredient that can be included in various meals for a protein boost and B vitamins.
- Spinach and Leafy Greens: Rich in essential nutrients, these can be used in salads, smoothies, or cooked dishes.
- Chickpeas: A fantastic legume that provides B vitamins and can be used in salads, hummus, or soups.

Quinoa veggie stir fry

Ingredients:
1 cup quinoa
2 cups vegetable broth
1 cup broccoli florets
1 cup chopped bell peppers
1 cup sliced carrots
1 tablespoon olive oil
2 cloves garlic, minced
1 tablespoon soy sauce
1 teaspoon ginger, grated

Preparation:
1. Rinse quinoa under cold water.
2. Bring vegetable broth to a boil and add quinoa. Reduce heat, cover, and simmer for 15 minutes.
3. In a pan, heat olive oil and sauté garlic and ginger until fragrant.
4. Add broccoli, bell peppers, and carrots to the pan, stir-frying for 5-7 minutes until tender.
5. Mix in cooked quinoa and soy sauce, stirring well to combine all ingredients.
6. Serve warm, garnished with fresh herbs if desired.

A nourishing stir fry with a perfect blend of protein-rich quinoa and colorful veggies.

Intestinal health

Focus on micronutrients

Ensuring sufficient intake of vitamins, antioxidants, and polyphenols is crucial for maintaining the integrity of the gut barrier. A deficiency in these nutrients may lower the abundance of A. muciniphila, which is essential for gut health.

Focus on nutrient-rich foods:

- Berries: Blueberries, raspberries, and acai berries are packed with antioxidants and vitamins—perfect for snacks or breakfast additions.
- Leafy Greens: Incorporate nutrient-dense greens like kale and spinach into your meals for added health benefits.
- Healthy Nuts and Seeds: Walnuts, flaxseeds, and almonds provide essential nutrients and healthy fats—add them to your salads or smoothies.

Manage stress levels

Chronic stress can significantly impact your gut health and exacerbate symptoms like digestive discomfort, bloating, and imbalances. By incorporating stress-reduction techniques, you can foster a more harmonious gut environment. Addressing stress through mindfulness and promoting calm can have positive effects on your microbiome, supporting a better balance of gut bacteria.

Practice stress-reduction techniques regularly:

- Yoga: Participate in regular yoga classes to improve relaxation.
- Meditation: Set aside time for meditation or deep-breathing exercises.
- Mindful Eating: Pay attention to your meals, chewing slowly, and enjoying the flavors.
- Nature Walks: Spend time outdoors to relax and unwind.
- Hobbies: Engage in activities you enjoy to alleviate stress.

Incorporating pseudograins

Pseudograins are naturally gluten-free and rich in fiber, magnesium, iron, and essential vitamins. They offer a nutritious alternative to traditional grains and are often better tolerated by people with sensitive digestion.

Include nutrient-dense pseudograins in your meals to support digestive health:

- Add quinoa as a side dish or in salads and curries.
- Use amaranth for breakfast porridge, in soups, or puffed in muesli.
- Enjoy chia seeds in puddings, smoothies, or even in water for added fiber.
- Incorporate buckwheat flour into pancakes or homemade bread for a gluten-free option.

Miso and vegetable stir-fry

Ingredients:
2 tablespoons miso paste
3 cups mixed vegetables (carrots, broccoli, bell pepper)
1 tablespoon olive oil
2 spring onions (green part only), sliced
1 tablespoon soy sauce
2 tablespoon water

Preparation:
1. In a small bowl, mix miso paste, soy sauce, and water.
2. Heat olive oil in a pan, add spring onions, and sauté till fragrant.
3. Add vegetables and cook until tender-crisp.
4. Pour in miso mixture, stirring to coat the vegetables.
5. Cook for an additional minute and serve hot.

A savory dish brimming with gut-friendly probiotics.

Well-being

Keep to regular bedtimes

A regular sleep rhythm is crucial for optimal serotonin production and general well-being. As the gut microbiome and the brain are closely connected, a regular night's sleep can help to maintain a balance in the gut and improve communication between the gut and brain. Good and sufficient sleep promotes the body's regeneration processes and reduces stress hormones, which can have a negative effect on the intestinal environment. Regular bedtimes therefore play an important role in supporting the gut-brain axis.

Some points that should be considered are:

- Avoid caffeine and heavy meals before going to bed.
- Create a relaxing sleeping environment without disturbances.
- Stick to regular bedtimes, even at weekends.
- Avoid using electronic devices just before going to bed.
- Introduce calming rituals such as reading or meditation before going to bed.

Try intermittent fasting

Intermittent fasting - i.e. deliberately planned breaks between meals - can have a positive effect on gut health and the microbiome in particular. These targeted breaks give the beneficial intestinal bacteria time to regenerate, which can strengthen their diversity and function. During this resting phase, the bacteria can recover and perform their tasks - such as supporting digestion, immune defense and communication with the brain - even more effectively. If intermittent fasting is implemented carefully and individually adapted, it can promote balance in the gut and contribute to greater vitality, inner balance and well-being in the long term.

Note the following tips:

- Start with a 16:8 cycle, i.e. fast for 16 hours and eat for 8 hours.
- Avoid processed foods during the eating phase.
- Drink plenty of water to support fasting in the best possible way.
- Pay attention to your body's signals and adjust your cycle if necessary.

Take in enough vitamin c

Vitamin C plays a crucial role in supporting the production of neurotransmitters, which are essential for communication between neurons in the brain. Ensuring adequate levels of vitamin C can significantly improve the ability to concentrate. As a powerful antioxidant, vitamin C also protects nerve cells from damage caused by free radicals. It also promotes the absorption of iron, which can optimize the brain's oxygen supply.

Points to note:

- Increase your consumption of fruit and vegetables rich in vitamin C, such as citrus fruits, peppers and broccoli.
- Do not overcook food or eat it raw to minimize the loss of vitamin C.
- Ensure sufficient sleep and good stress management to maintain the vitamin C concentration in the body.

Potato salad with resistant starch and herbs

Ingredients:
500g cooked and cooled potatoes
2 tablespoons olive oil
1 tablespoon apple cider vinegar
Salt and pepper to taste
Fresh herbs: parsley, dill and chives

Preparation:
1. Cut the potatoes into even slices.
2. Whisk together the olive oil, apple cider vinegar, salt and pepper in a large bowl.
3. Add the potatoes to the mixture and stir gently until they are well coated.
4. Garnish with fresh herbs and serve.

The use of cooked and chilled potatoes increases their resistant starch content and promotes intestinal health and general well-being by supporting healthy bacteria.

Metabolic health

Consume foods rich in polyphenols

Polyphenols - natural plant substances - make a valuable contribution to the health of the gut-liver axis. They specifically promote the growth of helpful intestinal bacteria such as Bacteroides eggerthii and thus support a balanced, diverse microbiome. Thanks to their strong antioxidant and anti-inflammatory properties, polyphenols not only have a stabilizing effect on the intestinal flora, but also relieve the liver in its daily detoxification processes. A diet rich in polyphenol-containing foods strengthens microbial diversity and balances the finely tuned interaction between the gut and liver.

Note the following points:

- Include blueberries and raspberries in your daily breakfast, e.g. in porridge or (plant-based) yogurt. They are rich in polyphenols and support liver health.
- Drink a cup of green tea every day. Green tea is rich in polyphenols and has an anti-inflammatory effect, which can support the liver.
- Enjoy 1-2 pieces of dark chocolate. Choose varieties with at least 85% cocoa, as these have a higher polyphenol content.

Avoid highly processed foods

Highly processed foods and sugar promote the growth of pro-inflammatory bacteria such as Bacteroides vulgatus and Bacteroides stercoris. An imbalance in the microbiome can exacerbate the symptoms of hyperthyroidism and impair thyroid function. It is therefore crucial to reduce the consumption of such foods. Instead, the diet should be fresh and balanced, with a focus on fruits, vegetables and whole grains to support the microbiome and promote anti-inflammatory bacteria.

Pay attention to the following points:

- Avoid ready meals and sweets, as they often contain high amounts of additives, sugar, sweeteners and refined carbohydrates.
- Go for fresh, unprocessed foods. Instead of a classic breakfast like sugary cereal or toast, try baked sweet potatoes with avocado and lime or avocado toast with egg and optionally some chili. For a probiotic version, you can enjoy (plant-based) yogurt with nuts, seeds and cinnamon.
- Try to cook for yourself as often as possible and plan your meals in advance so that you have healthy food to hand during the working day.

Minimize alcohol consumption

Alcohol can affect the balance of the gut-liver axis by weakening the intestinal barrier and disrupting the microbial balance in the gut. This can promote the colonization of unfavorable bacteria, which in turn can put a strain on the liver. Reducing your alcohol intake - ideally to one or two drinks a week or no alcohol at all - helps to keep the microbiome in a healthy state. This promotes the growth of beneficial bacteria that not only support gut health, but also relieve the liver in a natural way.

Pay attention to the following points:

- Choose non-alcoholic alternatives. There is now a wide range of non-alcoholic wines and beers that offer the taste of alcohol without the side effects.
- Try Kombucha: A fermented drink with a slight alcohol content, but without the typical negative effects of alcohol. It has a refreshing taste and also aids digestion.
- Enjoy sparkling water with lemon, lime, ginger, mint leaves or some fruit juice: a simple but delicious option. The tangy feeling and fruity taste can easily replace the "alcohol moment".

Blueberry and pomegranate yogurt

Ingredients:
200 ml natural yogurt or a plant-based alternative
100 g fresh blueberries
½ fresh pomegranate, seeded
1 tsp honey
50 g walnuts, chopped

Preparation:
1. Put the yogurt in a bowl.
2. Spread the blueberries and pomegranate seeds over the yogurt.
3. Drizzle the honey over the top.
4. Sprinkle with the chopped walnuts.

This blueberry and pomegranate yogurt is rich in polyphenols, which promote the growth of beneficial bacteria and can therefore protect your liver.

Summary

Here's a short breakdown of how to boost your gut health:

- **Embrace fermented foods:** Fermented foods provide beneficial probiotics that support a balanced gut microbiome, reduce dysbiosis, and enhance digestion. Regularly consuming them also boosts immunity and combats inflammation, promoting overall health by strengthening the gut lining and diversifying gut flora.
- **Diversify your diet:** A mixed diet that includes both animal and plant-based foods, especially resistant starches, is beneficial for gut health. This approach supports a balanced enterotype 3, enhancing microbial diversity and digestive function.
- **Increase fiber intake:** Fiber-rich foods nourish beneficial bacteria, acting as a prebiotic to enhance microbial diversity, reduce dysbiosis, and promote digestive health. A varied intake of fiber improves bowel regularity and helps prevent gut issues.
- **Prioritize vitamins, antioxidants, and polyphenols:** Sufficient intake of vitamins, antioxidants, and polyphenols is vital for maintaining the gut barrier and supporting beneficial bacteria like A. muciniphila. These nutrients also protect nerve cells and optimize brain oxygen supply.

- **Manage chronic stress:** Chronic stress negatively impacts gut health, exacerbating symptoms like discomfort and bloating. Implementing stress-reduction techniques, such as mindfulness, can promote a harmonious gut environment and better balance of gut bacteria.
- **Opt for pseudograins:** Pseudograins are naturally gluten-free and rich in fiber, magnesium, iron, and essential vitamins. They serve as a nutritious alternative to traditional grains, often better tolerated by those with sensitive digestion.
- **Include healthy fats:** Healthy fats, especially omega-3s, are crucial for reducing inflammation and supporting a balanced gut microbiome. They maintain gut lining integrity, enhance nutrient absorption, and promote beneficial gut bacteria.
- **Limit antibiotics:** Antibiotics can disrupt the gut microbiome by eliminating both harmful and beneficial bacteria, potentially promoting the growth of pathogenic species that cause inflammation. Discuss antibiotic use with your doctor.
- **Ensure sufficient b vitamin intake:** Adequate intake of B vitamins is crucial for supporting gut health and promoting anti-inflammatory benefits, contributing to overall gut and systemic well-being.
- **Maintain a regular sleep schedule:** A consistent sleep rhythm is vital for optimal serotonin production and overall well-being. It supports a balanced gut microbiome and enhances the gut-brain axis communication, promoting bodily regeneration and reducing stress hormones.
- **Consider intermittent fasting:** Intermittent fasting, with deliberate breaks between meals, can positively impact gut health by allowing beneficial bacteria to regenerate, enhancing their diversity and function. This promotes gut balance and overall vitality.
- **Increase vitamin c intake:** Vitamin C supports neurotransmitter production, improving concentration, and acts as an antioxidant, protecting nerve cells. It also boosts iron absorption, optimizing brain oxygen supply.
- **Integrate polyphenols into your diet:** Polyphenols contribute to gut-liver axis health by promoting beneficial bacteria and aiding liver detoxification. Their antioxidant and anti-inflammatory properties stabilize gut flora, fostering a balanced microbiome.
- **Avoid highly processed foods and sugar:** These foods promote pro-inflammatory bacteria and can exacerbate issues like hyperthyroidism and impair thyroid function. Focus on fresh, balanced meals with fruits, vegetables, and whole grains to support your microbiome.
- **Reduce alcohol consumption:** Alcohol can weaken the gut barrier and disrupt microbial balance, potentially promoting unfavorable bacteria and straining the liver. Aim for minimal or no alcohol to support a healthy microbiome and liver function.

8. About us

At Superhuman, we believe that peak vitality, performance and a long, healthy life shouldn't be left to chance—they should be your reality. As Serbia's first dedicated longevity centre, we are here to help you unlock your body's full potential, ensuring you don't just live longer, but feel younger and more energized every single day. Our approach is built on strictly science-based protocols and cutting-edge diagnostics, moving beyond generic health trends to deliver results that are highly personalized to your unique biology. By bridging the gap between world-class research and your daily well-being, we empower you to take definitive, data-driven control of your health. Add years to your life and life to your years!

9. Questionnaire

Personal

Is this test and questionnaire for someone else?
No

When is your birthday?
1982-10-10

What is your biological sex?
Male

How tall are you?
188 cm

How much do you weigh?
99 kg

In which country were you born?
AT

In which country do you currently reside?
AT

Which region of the world better describes your ancestry?
Eastern Europe

Were you born by C-section?
No

Your sample

When did you take your sample?
2025-03-24

What is the stool consistency of your sample?
4

Nutrition

Do you follow a specific diet?
Yes

Which diet(s) do you follow?
Ovo-Lacto-Vegetarian

When did you last take probiotics?
Over a year ago

How often do you drink alcohol?
Less than 1x per week

Lifestyle

How many people live in your household?
3-5 people

Do you have any pets living with you?
Yes

Which type of pets?
Dog(s)

Do you smoke?
Occasionally

How many hours do you sleep on average per night?
7-9 hours

How would you assess your current stress level?
2

Have you been outside of Europe in the last 6 months?
No

Gut health

How often do you have bowel movements on average?
1-3x per day

Do you have regular discomfort in the gastrointestinal tract?
No

Do you have any allergies?
No

Do you suffer from any intolerances?
No

Do you suffer from a chronic inflammatory bowel disease?
No

Have you been diagnosed with any other digestive tract disease?
No

How long has it been since your last colonoscopy?
Never

General health

How would you rate your physical health?

6

How would you assess your psychological well-being?

4

Do you have skin problems?

No

Do you suffer from any infectious disease(s)?

No

Do you have any mental or neurological disorders?

Yes

Please select the appropriate mental or neurological disorder(s)

Depression

Do you have any of the following diseases?

No

Drugs

When did you last take antibiotics?

Over a year ago

Are you regularly taking any medication?

Yes

Which of the following medications do you take?

Anti-depressants

Please note

Detection of a microorganism by this test does not imply the presence of a disease. Similarly, non-detection of a microorganism by this test does not rule out the presence of a disease-causing microorganism. Other organisms may also be present that are not detected by this test. This test is not a substitute for established methods for the identification of microorganisms or their antimicrobial susceptibility profile.

The analysed data is examined using specific phylogenetic analysis algorithms to obtain precise results on the basis of which your microbiome report is created. The latest scientific findings, bioinformatic excellence and AI-supported algorithms are used for this. These machine learning algorithms are used, with the highest standards of privacy and data security, in the gut health and gut-body interaction (excluding inflammatory potentials) chapters to determine the propensity of the microbiome profile of a sample to the profile of samples from individuals with specific characteristics. The summary in the chapter "Recommendations" was created with the help of AI.

We accept no liability for health decisions made on the basis of the test results.

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