

My results

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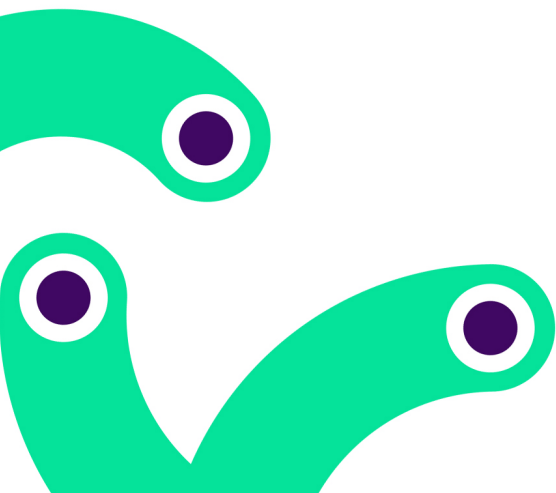
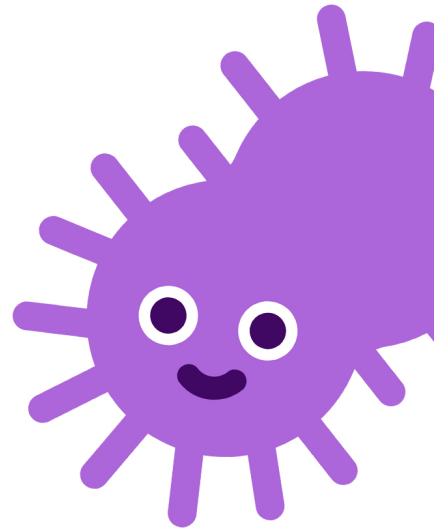


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Introduction

With the InnerBuddies test you get to know the bacteria that reside in your intestine, collectively known as the gut microbiome or 'inner buddies' as we call them. Via the personal dashboard, you are able to access your data and be introduced to the universe inside you. Hence, creating an intimate connection with them.

There are different ways of healthy nutrition, but taking care of your inner buddies is always a good choice.

Let's give you a few reasons:

- Your buddies compete against the colonization of pathogens
- Your buddies can produce substances essential to the human health

You see? It is a wise decision to take care of them!

Now you may be wondering how you can actually nourish your gut to create a good environment for your little companions. I bet you already know the answer. Yes, indeed, through food recommendations based on your current bacterial status.

At InnerBuddies, nutritional advice means that we use your individual information, such as your bacteria diversity and your bacteria levels, to boost your health through an evidence-based diet.

1. Your bacteria diversity

Your bacteria diversity shows how diverse your gut microbiome is based on three calculations (Shannon’s index, Observed OTUs, and Pielou’s evenness). It describes the variety and comprises species richness and species evenness. The pointer indicates your results for that particular calculation and the text below contains a brief explanation.

The left yellow edge indicates a low diversity.

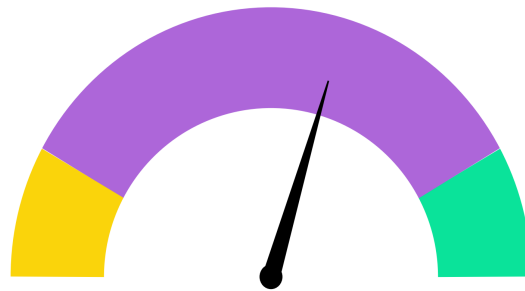
The centre purple portion illustrates an average diversity.

The right green edge denotes a high diversity.

So the more your arrow points to the right side, the better your bacteria diversity is.

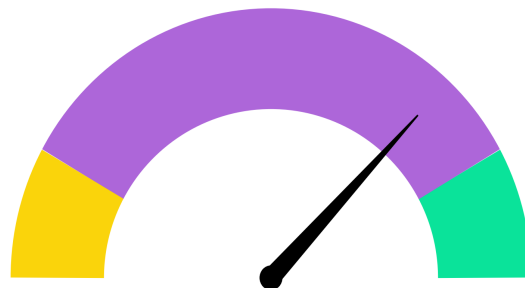
1.1 Shannon’s index

The Shannon’s index is the most commonly used indicator to represent diversity. The more different bacteria are evenly distributed in your gut, the greater the diversity and the more resilient the microbiome. Furthermore, many studies have shown that a low degree of diversity could be associated with multiple diseases.



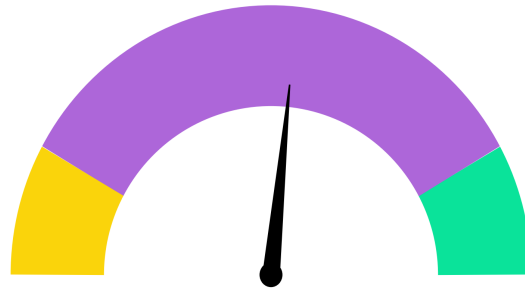
1.2 Observed OTUs

Species richness shows the number of different bacteria in your gut. In a diverse microbiome, the large number of distinct species can contribute to multiple functions being carried out. As a consequence, the body utilizes nutrients better, as well as handles pathogens more easily.



1.3 Pielou’s evenness

Species evenness describes how often one bacteria occurs in your gut compared to other species. The higher the equitability, the more balanced the spread of different bacteria is between species. The calculation goes from 0 (no evenness) to 1 (complete evenness).




2. Your bacteria levels

Your bacteria levels show how diverse your gut microbiome is based on three groups (Good bacteria, Bad bacteria, and Other relevant bacteria). It describes the counts and comprises the ranges 'be aware', 'normal', and 'great'. The pointer indicates your results for that particular bacteria and the information icon contains a brief explanation.

Good bacteria are species that can have a positive effect on your health, while bad bacteria can have a negative effect on your health. For other relevant bacteria, the literature does not yet clearly describe whether they have a positive or negative effect on your health. This is why we can only show whether you are 'lower than normal' or 'higher than normal'.

Bacteria ranges

Bacteria levels provide a snapshot for personalized dietary practices that are based on the bacteria counts and organized in distinct ranges. Following healthy and diverse eating patterns may help your current bacteria levels decrease (for bad bacteria) or increase (for good bacteria) to 'normal' and 'great'. On the other hand, not following healthy and diverse eating patterns may decrease (for good bacteria) or increase (for bad bacteria) your current bacteria levels to 'be aware'. Besides, for other relevant bacteria we currently know the 'normal' range, hence we only indicate whether you are 'lower than normal' or 'higher than normal'.

	your current bacteria level
be aware	your buddies need your attention
lower than normal	your buddies are below normal
normal	your buddies are fine
higher than normal	your buddies are above normal
great	you are the biggest supporter of your buddies

About bacteria

There are several bacteria that can be found in virtually all individuals and these can be seen as a kind of the 'core' in your gut microbiome. On the basis of this, we selected the top 35 bacteria and divided them according to their functionality into the following seven categories:

- Immune strength
- Gut wall strength
- Weight reduction support
- Gas production
- Potential colon problems
- Infection alarm
- Fat alarm

Their names are meant to be indicative and should, by no means, be interpreted as a medical condition.

2.1 Good bacteria

Christensenellaceae

Christensenellaceae R-7 group is associated with weight reduction support, as it has been linked to a decrease in cholesterol and obesity risk. This bacteria is present in 88.6% of the population.



Ruminococcaceae

Ruminococcaceae is associated with gut wall strength, as it has been linked to an increase in butyrate production and bowel movement. This bacteria is present in 50.8% of the population.



Barnesiella

Barnesiella is associated with infection alarm, as it has been linked to a decrease in lipids. This bacteria is present in 81.4% of the population.



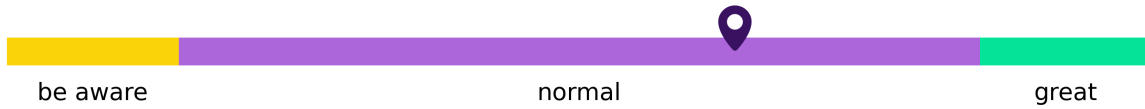
Butyricoccus

Butyricoccus is associated with gut wall strength, as it has been linked to an increase in butyrate production and bowel movement. This bacteria is present in 86.1% of the population.



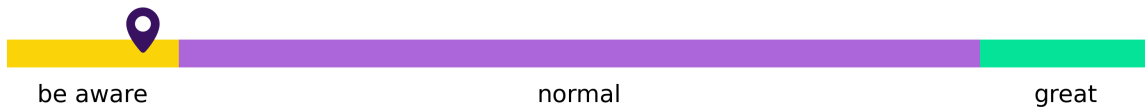
Roseburia

Roseburia is associated with gut wall strength, as it has been linked to an increase in butyrate production and bowel movement, and a decrease in insulin production. This bacteria is present in 92.4% of the population.



Blautia

Blautia is associated with weight reduction support, as it has been linked to a decrease in cholesterol and obesity risk. This bacteria is present in 98.1% of the population.



Holdemanella

Holdemanella is associated with gut wall strength, as it has been linked to an increase in butyrate production and bowel movement, and a decrease in insulin production. This bacteria is present in 43.7% of the population.



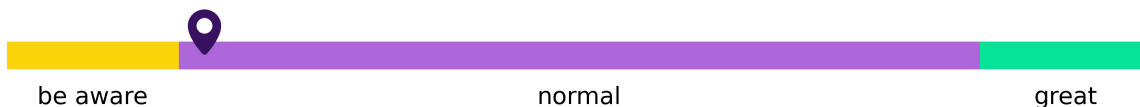
Parabacteroides

Parabacteroides is associated with weight reduction support, as it has been linked to a decrease in cholesterol and obesity risk. This bacteria is present in 95.4% of the population.



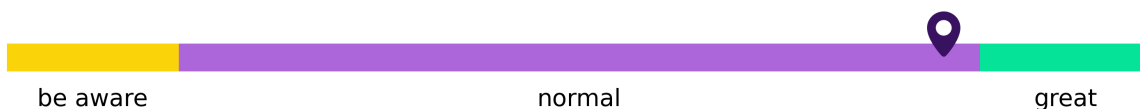
Anaerostipes

Anaerostipes is associated with gut wall strength, as it has been linked to an increase in butyrate production and bowel movement. This bacteria is present in 88.2% of the population.



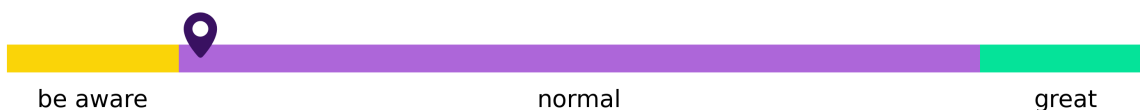
Lactobacillus

Lactobacillus is associated with immune strength, as it has been linked to an increase in bowel movement and microbial richness, and a decrease in inflammation. It can be induced by vegetables (such as artichoke, leek, and cabbage), fruits (like cantaloupe, nectarine, and apple), and fermented products (for example miso, tempeh, and kefir). This bacteria is present in 42.6% of the population.



Eubacterium

Eubacterium is associated with gut wall strength, as it has been linked to an increase in butyrate production and bowel movement, and a decrease in insulin production. It can be induced by vegetables (such as cauliflower, eggplant, and lettuce) and cereals (like quinoa, bulgur, and sorghum). This bacteria is present in 52.7% of the population.



Akkermansia

Akkermansia is associated with weight reduction support, as it has been linked to a decrease in cholesterol and obesity risk. It can be induced by legumes (such as soybeans, chickpeas, and lupin) and nuts or seeds (like cashew nuts or flax seeds). This bacteria is present in 64.8% of the population.



Faecalibacterium

Faecalibacterium is associated with gut wall strength, as it has been linked to an increase in butyrate production and bowel movement, and a decrease in insulin production. It can be induced by vegetables (such as cauliflower, eggplant, and lettuce) and cereals (like quinoa, bulgur, and sorghum). This bacteria is present in 98.7% of the population.



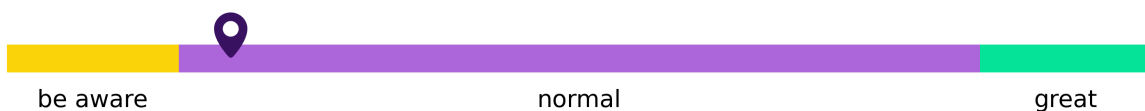
Coprococcus

Coprococcus is associated with gut wall strength, as it has been linked to an increase in butyrate production and bowel movement. This bacteria is present in 73.8% of the population.



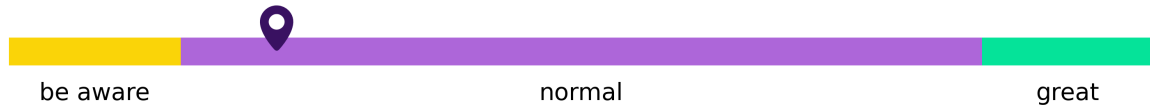
Bifidobacterium

Bifidobacterium is associated with immune strength, as it has been linked to an increase in bowel movement and microbial richness, and a decrease in inflammation. It can be induced by vegetables (such as artichoke, leek, and cabbage), fruits (like cantaloupe, nectarine, and apple), and fermented products (for example miso, tempeh, and kefir). This bacteria is present in 76.2% of the population.



Hafnia-Obesumbacterium

Hafnia-Obesumbacterium is associated with weight reduction support, as it has been linked to a decrease in cholesterol and obesity risk. It can be induced by legumes (such as soybeans, chickpeas, and lupin) and nuts or seeds (like cashew nuts or flax seeds). This bacteria is present in 6.8% of the population.



2.2 Bad bacteria

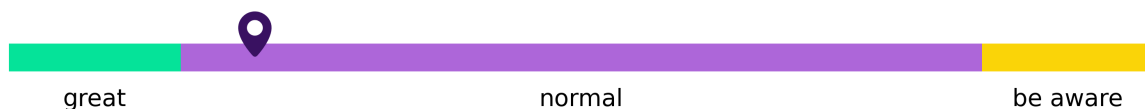
Bilophila

Bilophila is associated with fat alarm, as it has been linked to an increase in hydrogen sulphide production and cholesterol. It can be induced by organs (such as liver, heart, and kidney) and can be reduced by cereals (like oat, amaranth, and muesli). This bacteria is present in 60.5% of the population.



Desulfovibrio

Desulfovibrio is associated with fat alarm, as it has been linked to an increase in cholesterol. It can be induced by organ meat (such as liver, heart, and kidney) and can be reduced by cereals (like oat, amaranth, and muesli). This bacteria is present in 42.6% of the population.



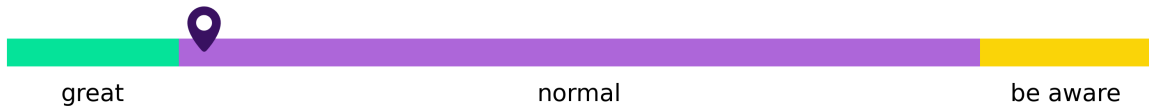
Bacteroides

Bacteroides is associated with infection alarm, as it has been linked to an increase in lipids. It can be induced by animal (such as butter, cream, and lard) or vegetable condiments (like margarine, coconut oil, and corn syrup) and can be reduced by seafood (for example cod and bass). This bacteria is present in 99.8% of the population.



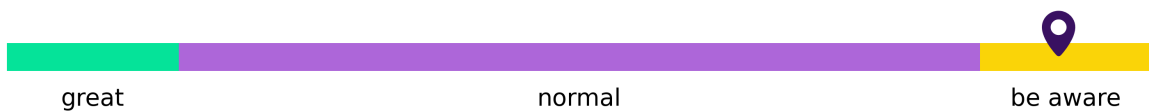
Escherichia-Shigella

Escherichia-Shigella is associated with infection alarm, as it has been linked to an increase in lipids and inflammation. This bacteria is present in 62.0% of the population.



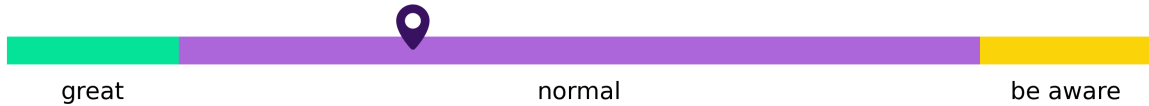
Klebsiella

Klebsiella is associated with infection alarm, as it has been linked to an increase in lipids and inflammation. This bacteria is present in 2.7% of the population.



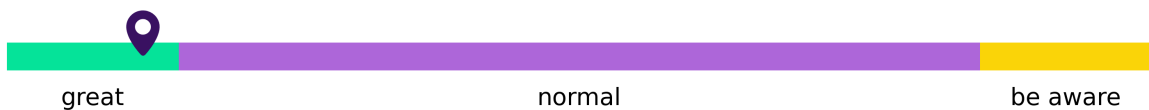
Sutterella

Sutterella is associated with infection alarm, as it has been linked to an increase in lipids and inflammation. This bacteria is present in 73.8% of the population.



Fusobacterium

Fusobacterium is associated with potential colon problems, as it has been linked to an increase in cancer risk. It can be induced by red (such as pork, beef, and lamb) and processed meat (like sausage, burger, and pate) and reduced by fruits (for example pear, kiwi, and grape). This bacteria is present in 2.3% of the population.



2.3 Other relevant bacteria

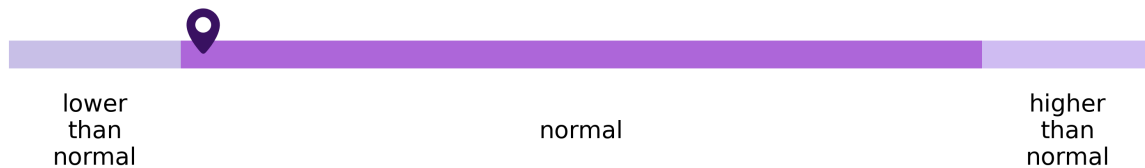
Lachnospiraceae

Lachnospiraceae is not yet associated with a category of InnerBuddies, but some literature linked it to an increase in butyrate production, and a decrease in cholesterol and obesity risk. This bacteria is present in 32.7% of the population.



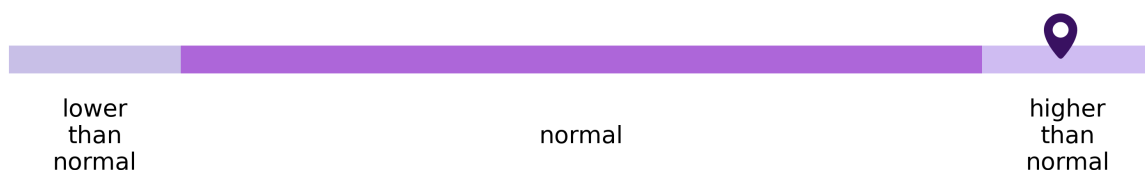
Fusicatenibacter

Fusicatenibacter is not yet associated with a category of InnerBuddies, but some literature linked it to an increase in butyrate production and bowel movement. This bacteria is present in 89.0% of the population.



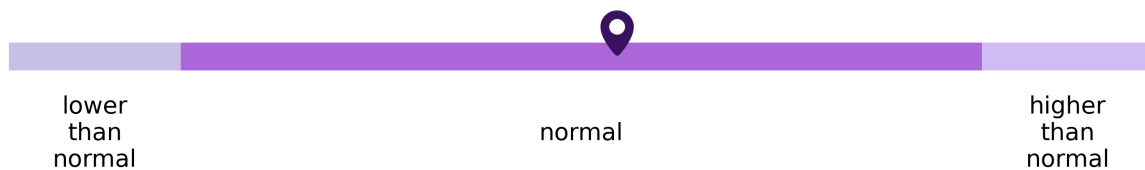
Methanobrevibacter

Methanobrevibacter is associated with fibre degradation, as it can be linked to an increase in methane production and constipation. This bacteria is present in 26.2% of the population.



Methanosphaera

Methanosphaera is associated with fibre degradation, as it can be linked to an increase in methane production and constipation. This bacteria is present in 5.9% of the population.



Lachnospira

Lachnospira is not yet associated with a category of InnerBuddies, but some literature linked it to a decrease in cholesterol and obesity risk. This bacteria is present in 74.3% of the population.



3. Your target nutrient values

Your target nutrient values show how diverse your eating patterns are based on the three-day food diary that you filled in before taking a stool sample. It describes the amount of carbohydrates, fats (of which saturated fats), dietary fibres, salt, and proteins you have consumed during those three days. The pointer indicates your results for that particular nutrient and the text below contains a brief explanation.

The left yellow edge indicates a low nutrient value.

The centre green portion illustrates an average nutrient value.

The right yellow edge denotes a high nutrient value.

So the more your arrow points to the centre part, the better your target nutrient value.

Carbohydrates

Carbohydrates are one of the macronutrients that provide the main source of energy. Depending on the carbohydrates that make up your diet and how they are prepared and ingested may change your gut microbiome accordingly. Some carbohydrates avoid the small intestinal absorption fully or partly and therefore reach the colon, hence serving as a nutrient for the gut microbiome. As well as dietary fibres, some starchy structures may resist the small intestinal absorption. As an example, resistant starches can form new crystalline structures (in a process called retrogradation) and reach the colon where they are fermented by the gut microbiome.

Examples of food groups with a lot of carbohydrates are:

- Unrefined and refined grains
- Starchy vegetables
- Fruits

The Dutch dietary guidelines advise that carbohydrates, in healthy individuals, should contribute to '40-70%' of the total energy intake per day.



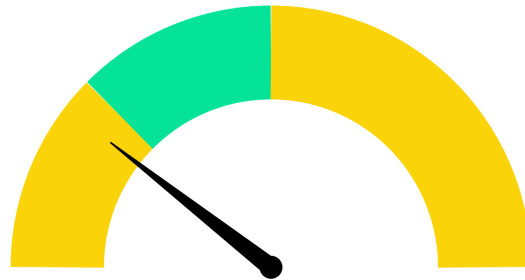
Fats

Fats are also one of the macronutrients that provide the main source of energy. In addition, fats ensure that fat-soluble vitamins can be adequately absorbed by our body. Some fats are believed to have beneficial effects, such as mono- and polyunsaturated fats, while others are associated with the development of chronic diseases, such as saturated and trans fats. Besides, high fat diets have been suggested to negatively impact the gut microbiome by reducing diversity and leading to dysbiosis.

Examples of food groups with high amounts of fats are:

- Dairy products
- Nuts and seeds
- Vegetable fats (e.g., olive oil)
- Animal fats (e.g., butter)

The Dutch dietary guidelines advise that fats, in healthy individuals, should contribute to '20-40%' of the total energy intake per day.



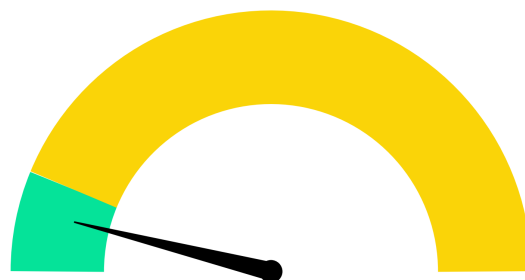
Saturated fats

Saturated fats are a type of fat that is mainly found in animal products. High consumption of saturated fatty acids has been linked to the development of cardiovascular disease and diabetes type 2. Besides, it has been suggested that the consumption of saturated fats negatively alters the gut microbiome.

Examples of food groups with high amounts of saturated fats are:

- Animal products
- Processed and fried foods

The Dutch dietary guidelines advice that saturated fats should be reduces as much as possible.



Dietary fibres

Dietary fibres are non-digestible carbohydrates that reach the colon and can be fermented by the gut microbiome. The gut microbiome then produces Short Chain Fatty Acids (SCFAs), namely propionate, acetate, and butyrate. Propionate contributes to the production of glucose, acetate is involved in the synthesis of lipids, and butyrate is the main source of energy for the cells present in the large intestine. Dietary fibres are further divided into soluble and insoluble fibres.

Soluble fibres can create a gel-like matrix that helps to achieve a better feeling of satiety, leading to a lower calorie intake. In addition, one of the most abundant soluble fibres has the ability to lower cholesterol, namely beta-glucan.

Examples of food groups with high amounts of soluble fibres are:

- Oats
- Barley
- Nuts
- Beans

Insoluble fibres can create a soft stool texture that helps to achieve a better sense of intestinal motility, leading to an easier bowel movement. Besides, they may also reduce inflammation and the risk of colon cancer.

Examples of food groups with high amounts of insoluble fibres are:

- Unrefined grains (e.g., bread, rice, pasta)
- Legumes

The Dutch dietary guidelines advice that dietary fibres, in healthy individuals, should be 30-40 g/day.



Salt

Salt is a nutrient that participates in many physiological processes. However, excessive consumption of salt has been linked to cardiovascular diseases. In addition, a high salt intake can change the intestinal composition and cause a lower bacteria diversity.

Examples of food groups with high amounts of salt are:

- Processed foods
- Ready-to-eat meals

The Dutch dietary guidelines advice that salt, in healthy individuals, should be limited to a maximum of 6 g/day.



Proteins

Proteins are considered as the building blocks of the body. Consuming plant-based proteins can contribute to the diversity of the microbiome. In addition, regardless of the source, they participate in numerous physiological processes. Including the right amounts in your meals helps to achieve a positive net protein balance. Conversely, increased protein consumption may not lead to the expected beneficial effects. In fact, it can reduce bacteria diversity and the relative production of its substrates. The mechanism that controls this process can be regulated by a decreased intake of fermentable foods, mostly dietary fibres. The net protein balance is the difference between muscle build-up and muscle breakdown. A positive protein balance leads to muscle, tissue, and cell build-up, while a negative protein balance leads to muscle, tissue and cell breakdown.

Examples of food groups with high amounts of proteins are:

- Dairy

- Legumes
- Nuts and seeds
- Seafood
- Meat

The Dutch dietary guidelines advice that proteins, in healthy individuals, should be 0.8 g per kg (bodyweight)/day.

Optimal protein intake: 53

Current intake: 49

3.1 Your BMI

The body mass index (BMI) is a value derived from the weight and height that you filled in after taking a stool sample. The BMI is defined as the weight divided by the square of the height and is expressed in kg/m^2 , resulting from weight in kilograms and height in meters.

Your BMI is: 22.3


If your BMI is less than 18.5, it falls within the underweight range. If your BMI is 18.5 to 24.9, it falls within the normal range. If your BMI is 25.0 to 29.9, it falls within the overweight range. If your BMI is 30.0 or higher, it falls within the obesity range.

4. Gut health

The three subcategories under Gut health (Immune strength, Gut wall strength, and Weight reduction support) can be seen as the good categories, as they can have a positive effect on your health. The food items that are mentioned in the dietary advice can be consumed more to potentially increase your bacteria.

Bacteria ranges

Bacteria levels provide a snapshot for dietary advice that is based on bacteria counts and organized into bacteria ranges. Following healthy and diverse eating patterns may help your current bacteria levels increase to 'normal' and 'great'. On the other hand, not following healthy and diverse eating patterns may decrease your current bacteria levels to 'be aware'.

	your current bacteria level
be aware	your buddies need your attention
normal	your buddies are fine
great	you are the biggest supporter of your buddies

About gut health

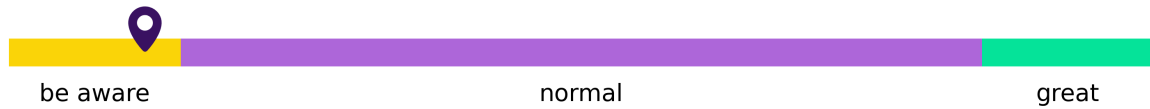
We have split Gut health into relevant subcategories. For sake of simplicity, we have focused on characteristic bacteria for these subcategories, but please be aware that some of these species serve several functions. For example, bacteria that improve your immune system can also strengthen your gut wall lining or support your weight reduction. Please see explanations of bacteria functions in Your bacteria levels.

Disclaimers

The information provided in this chapter is shown as a result of your microbial analyses with the objective to improve your Gut health based on the current scientific evidence. While the information is written by nutrition and health experts and strives to provide evidence-based information, your lifestyle needs may or may not apply to the content provided in this chapter. The information is not a substitute for professional medical advice. You should always seek advice from your physicians or healthcare providers with questions related to treatment, diagnosis, and prevention.

4.2 Gut wall strength

Faecalibacterium



Eubacterium

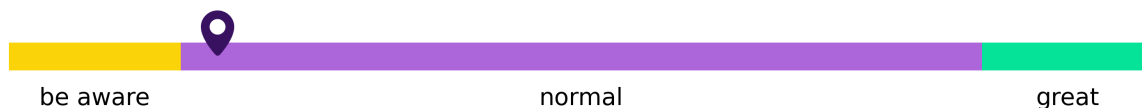


Your intestinal wall and slime are protective layers that prevent pathogens from entering the bloodstream. But it does not only serve as a barrier, to the contrary, all compounds produced by our buddies must also pass through it to enter different body systems (blood, neural, lymphatic, etc.). Therefore, its strength and its ability to function well, is so relevant. One of the positive effects on the strength of our gut wall is based on the fact that certain bacteria producing butyrate, an essential substance that is created by digesting dietary fibre. Butyrate is particularly important because it is a primary source of energy for certain cells (colonocytes), thereby ensuring the strength of its intestinal barrier function.

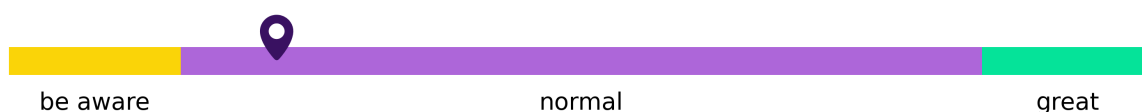
Your sample results for Gut wall strength are in 'be aware'. This means that your buddies need attention. Start introducing the dietary advice below to improve your gut wall strength.

4.3 Weight reduction support

Akkermansia



Hafnia-Obesumbacterium



The gut microbiome has an influence on our metabolism (the way we break down, absorb, and use food). As a result of digesting certain types of food, bacteria produce beneficial substances like butyrate. Butyrate provides protection against obesity by being a nutrient for good bacteria that can help prevent and/or delay weight gain. Recent research suggests that the gut microbiome has an influence on our ability to lose weight. The more we host bacteria in the gut, that help us to break down complex carbohydrates (starches) into simple sugars, the better. In addition, the gut microbiome also has an impact on our sleep quality. For instance, good bacteria can (directly or indirectly) produce the sleep molecule – melatonin – and send out different signals involved in better relaxation. A diverse gut microbiome promotes longer and deeper sleep. On the contrary, an unhealthy gut microbiome may produce fewer sleep molecules and butyrate which may lead to a higher risk of obesity. Obesity, in turn, has been associated with a negative sleep quality.

Your sample results for Weight reduction support are in 'normal'. This means that your buddies are fine. Keep maintaining a healthy and diverse eating pattern to improve your weight reduction support.

4.4 Dietary advice

Category	Food group	Food item	Serving size
Gut wall strength	Beverages	Kombucha	150 g
	Cereals	Amaranth	120 g
		Bread, buckwheat	120 g
		Bread, whole grain	70 g
		Bulgur	120 g
		Corn flakes	30 g
		Cracker, whole grain	100 g
		Fortified cereal	30 g
		Granola	30 g
		Pasta, whole grain	120 g
		Quinoa	120 g
		Rye	120 g
		Sorghum	120 g
		Triticale	120 g
		Wheat flakes	30 g
		Condiments and seasonings	Agave powder
	Clove		5 g
	Garlic		5 g
	Nutritional yeast		5 g
	Vinegar, apple		15 g
	Dairy	Cheese, cottage	40 g
		Cheese, extra matured	40 g
		Cheese, grana padano	40 g
		Cheese, matured	40 g
		Cheese, old	40 g
		Cheese, parmesan	40 g
		Cheese, young	40 g
		Kefir	185 g
		Milk, skim	185 g
		Yoghurt, low fat	185 g
		Yoghurt, skim	185 g
	Legumes	Miso	20 g
		Natto	20 g
Plant-based alternatives	Tempeh	100 g	


Vegetables	Artichoke	125 g
	Asparagus, green	125 g
	Beetroot	125 g
	Broccoli	125 g
	Brussels sprout	125 g
	Cabbage, red	125 g
	Capsicum, red	125 g
	Carrot	125 g
	Cauliflower	125 g
	Celery	125 g
	Chard	125 g
	Chicory	125 g
	Daikon	125 g
	Eggplant	125 g
	Fennel	125 g
	Fermented fava	150 g
	Kale	125 g
	Kimchi	150 g
	Leek	125 g
	Lettuce	125 g
	Okra	125 g
	Onion, green	50 g
	Parsnip	125 g
	Radish	125 g
	Rocket	125 g
	Sauerkraut	125 g
	Savoy cabbage	125 g
	Shallot	50 g
	Tomato, cherry	125 g
	Yam	125 g
Zucchini	125 g	

5. Fibre degradation

The one subcategory under Fibre degradation (Gas production) can be seen as the other relevant category, as it is not yet clear whether it has a positive or negative effect on your health. That is why we can only show whether you are 'lower than normal' or 'higher than normal'.

Bacteria ranges

Bacteria levels provide a snapshot for dietary advice that is based on bacteria counts and organized into bacteria ranges. For other relevant bacteria, we currently know the 'normal' range, hence we can only indicate whether you are 'lower than normal' or 'higher than normal'.

	your current bacteria level
lower than normal	your buddies are below normal
normal	your buddies are fine
higher than normal	your buddies are above normal

About fibre degradation

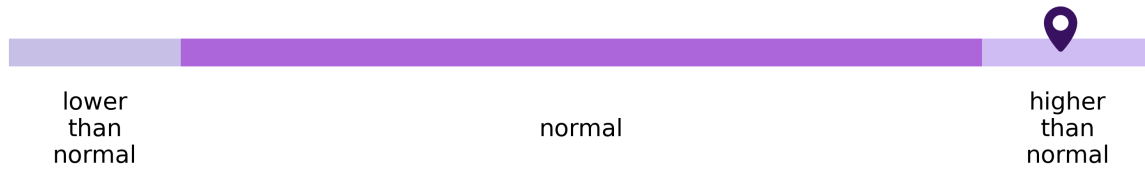
We have listed these bacteria under Fibre degradation. However, please be aware of the fact that they produce gases and therefore may cause constipation. Please see explanations of bacteria function in Your bacteria levels.

Disclaimers

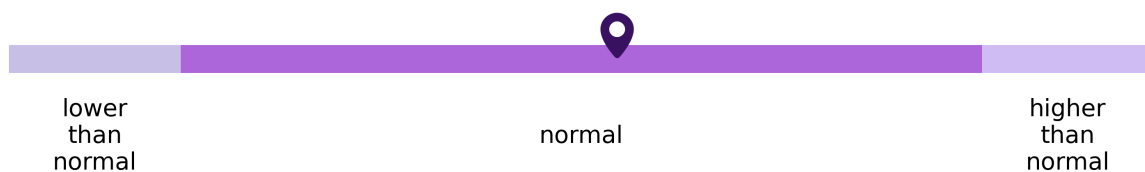
The information provided in this chapter is shown as a result of your microbial analyses with the objective to improve your Fibre degradation based on the current scientific evidence. While the information is written by nutrition and health experts and strives to provide evidence-based information, your lifestyle needs may or may not apply to the content provided in this chapter. The information is not a substitute for professional medical advice. You should always seek advice from your physicians or healthcare providers with questions related to treatment, diagnosis, and prevention.

5.1 Gas production

Methanobrevibacter



Methanosphaera



The bacteria in our gut produce about 80 litres of gas a day. Excessive or rapid gas production can lead to intestinal cramps. Fortunately, most of this is absorbed into the bloodstream and exhaled through the lungs. However, a small portion leaves our bodies 'through the backdoor'. Methane is one of those gasses, produced by certain gut bacteria selected for this category. Nevertheless, they are beneficial because of their ability to convert 2 gasses - hydrogen and carbon dioxide - into 1 gas - methane - reducing gas pressure and thus intestinal cramps.

Your sample results for Fibre degradation are in 'higher than normal'. This means that your buddies are above normal.

Although there are no science-based guidelines to get rid of bloating, here are a few tips and tricks that might help you manage your symptoms:

- Gradually increase high-fibre foods. Gas and bloating are normal when you consume fibre - you are feeding your inner buddies! The trick is not to reduce your fibre intake, but to give your body time to adjust. Start slowly and make sure that as your fibre intake increases, so does your water intake. This 'keeps things moving' down there.
- Try a cup of peppermint tea or a capsule of peppermint oil after your meal. It helps relax the gut and reduces gas and bloating.
- Gently move for 10-15 minutes after your meal (walking and yoga are great options).
- Replace salt with herbs and spices such as cumin, paprika, curry, turmeric, ginger, etc. Diets high in salt can contribute to water retention and abdominal pain.
- Keep an eye on any 'trigger foods'. Everyone is different - what works for one may not work for another. If you know something can cause cramps, give your body time to adjust before completely eliminating it from your diet.
- The following foods can exacerbate gas and bloating, so keep these in mind as possible 'trigger foods': unripe and large amounts of fruit; sweeteners in 'light' products such as cola; products containing a lot of air such as whipped cream or mousse; spicy foods; and certain vegetables such as leeks, bell peppers, onions, and garlic.


- In addition, certain foods are more difficult to digest than others, such as lentils, beans, cabbage, broccoli, Brussels sprouts etc. Slowly increase consumption or swap them for another plant-based alternative if your symptoms don't improve over time.
- It may help to cook all your vegetables properly so that they are easier to digest.
- Soak your legumes overnight to get rid of some of the sugar that causes stomach pain.
- Pay attention to your bowel movements - constipation is a key contributor to bloating.
- Eat slower (and with your mouth closed) so that you swallow less air. Also, focus on chewing food thoroughly – depending on the product you should aim to chew 10-30 times before swallowing.
- Reduce your consumption of carbonated drinks - their bubbles can get trapped in your gastrointestinal tract and cause cramps.
- In most cases, gas and bloating is not a sign of a medical condition. However, if you notice that you often suffer from this, it is important to consult your doctor.

6. Gut challenges

The three subcategories under Gut challenges (Potential colon problems, Infection alarm, and Fat alarm) can be seen as the bad categories, as they can have a negative effect on your health. The food items that are mentioned in the dietary advice can be consumed more or less to potentially decrease your bacteria.

Bacteria ranges

Bacteria levels provide a snapshot for dietary advice that is based on bacteria counts and organized into bacteria ranges. Following healthy and diverse eating patterns may help your current bacteria levels decrease to 'normal' and 'great'. On the other hand, not following healthy and diverse eating patterns may increase your bacteria levels to 'be aware'.

	your current bacteria level
great	you are the biggest supporter of your buddies
normal	your buddies are fine
be aware	your buddies need your attention

About gut challenges

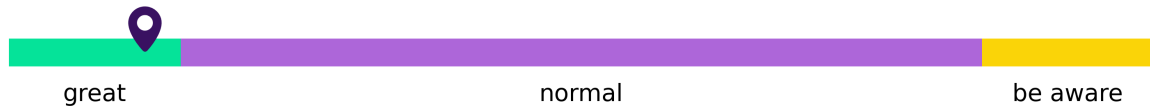
We have split Gut challenges into relevant subcategories. For sake of simplicity, we have focused on characteristic bacteria for these subcategories, but please be aware that some of these species serve several functions across subcategories. For example, bacteria that impair your immune system can also weaken your gut wall lining or support your potential colon problems. Please see explanations of bacteria functions in Your bacteria levels.

Disclaimers

The information provided in this chapter is shown as a result of your microbial analyses with the objective to improve your Gut challenges based on the current scientific evidence. While the information is written by nutrition and health experts and strives to provide evidence-based information, your lifestyle needs may or may not apply to the content provided in this section. The information is not a substitute for professional medical advice. You should always seek advice from your physicians or healthcare providers with questions related to treatment, diagnosis, and prevention.

6.1 Potential colon problems

Fusobacterium

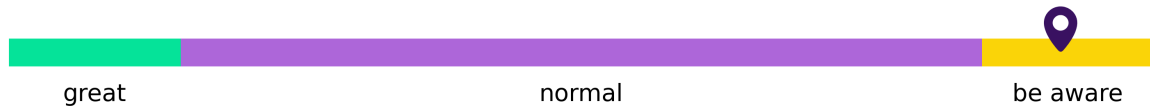


The gut microbiome promotes various physiological functions, which are related to the natural growth of cells, the renewal of blood vessels in the gut, and the programmed death of cells. Several studies have found that certain bacteria - including Fusobacterium – may be associated with the development of disorders in the colon. In these studies, a shift in the composition of the gut microbiome was observed in patients with such a condition. Although scientists have not determined whether Fusobacterium causes these diseases or that it simply thrives in the environment of these diseases, its presence can indicate a potential colon problem.

Your sample results for Potential colon problems are in 'great'. This means that you are the biggest supporter of your buddies. Keep maintaining a healthy and diverse eating pattern to improve your potential colon problems.

6.2 Infection alarm

Bacteroides

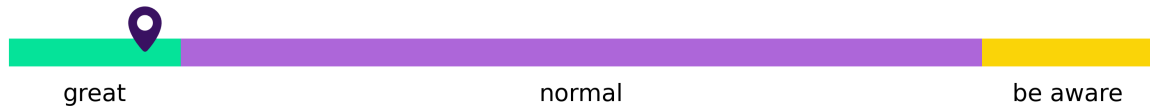


Bad bacteria can cause inflammation in the gut. Acute intestinal infections, often leading to diarrhoea and very noticeable by the host, are usually caused by infectious bacteria. However, there are also other bacteria that cause conditions which are more subtle and much less noticeable by the host, but nevertheless undesired. Such bacteria, for example, produce substances that can lead to inflammation when they enter the bloodstream or reduce antibodies that are an important part of the immune system and therefore lower our ability to fight off infections.

Your sample results for Infection alarm are in 'normal'. This means that your buddies are fine. Keep maintaining a healthy and diverse eating pattern to improve your infection alarm.

6.3 Fat alarm

Bilophila



Desulfovibrio



A high-fat diet with a low fibre intake has a detrimental effect on the gut microbiome. Such a diet promotes the growth of unwanted bacteria on the intestinal wall, which can lead to inflammatory reactions and intestinal permeability. Usually, a high prevalence of the bacteria in this category is associated with a higher fat intake. However, it may also be the case that the balance of macronutrients (carbohydrates, fats, and proteins) is disturbed, so that the amount of fat is not exceptionally high, but rather high in relation to the amount of carbohydrates and proteins.

Your sample results for Fat alarm are in 'normal' and 'great'. This means that your buddies are doing good. Keep maintaining a healthy and diverse eating pattern to improve your fat alarm.

6.4 Dietary advice

Foods to encourage

Encouraging below mentioned food items in a healthy and diverse eating pattern may help your current bacteria levels decrease.

Category	Food group	Food item	Serving size
Infection alarm	Beverages	Ginseng	125 g
		Tea, black	150 g
		Tea, ginger	150 g
		Tea, green	150 g
		Tea, rooibos	150 g
	Cereals	Barley	120 g
		Bread, barley	100 g
		Oat bran	30 g
		Porridge	30 g
	Condiments and seasonings	Cinnamon	5 g
		Cocoa powder	5 g
		Curry powder	5 g
		Ginger	5 g
		Oil, canola	20 g
		Oil, olive	20 g
		Oil, peanut	20 g
		Oil, safflower	20 g
		Oil, salad	20 g
		Oil, sesame	20 g
		Oil, soybean	20 g
		Oil, sunflower	20 g
		Pepper	5 g
		Rosemary	100 g
		Seed, cardamom	5 g
	Fish	Anchovy	100 g
		Cod	100 g
		Herring	100 g
		Mackerel	100 g
		Pangasius	100 g
		Salmon	100 g
Sardine		100 g	

	Silver perch	100 g
	Swordfish	100 g
	Tilefish	100 g
	Trout	100 g
	Tuna	100 g
Fruits	Apple	100 g
	Apricot	100 g
	Blueberry	100 g
	Cantaloupe	100 g
	Cherry	100 g
	Currant, black	100 g
	Currant, red	100 g
	Fig	100 g
	Grape	100 g
	Kiwi, green	100 g
	Melon	100 g
	Mulberry	100 g
	Nectarine	100 g
	Pear	100 g
	Pomegranate	100 g
	Strawberry	100 g
	Watermelon	100 g
Nuts and seeds	Nut, almond	25 g
	Nut, cashew	25 g
	Nut, pistachio	25 g
	Nut, walnut	25 g
	Seed, chia	25 g
	Seed, linseed or flaxseed	25 g
	Seed, pumpkin	25 g
	Seed, sesame	25 g
Plant-based alternatives	Oat drink	185 g
Vegetables	Corn	125 g
	Maitake	125 g
	Reishi	125 g
	Seaweed	125 g
	Shiitake	125 g
White meat	Chicken, breast	100 g
	Rabbit, all cuts	100 g

		Turkey fillet	100 g
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Foods to avoid

Diminishing below mentioned food items in a healthy and diverse eating pattern may help your current bacteria levels decrease.

Category	Food group	Food item
Infection alarm	Condiments and seasonings	Lard
		Margarine
		Oil, coconut
		Oil, palm
	Dairy	Butter
		Cream, coconut
		Creme fraiche
		Whipped cream
	Red and processed meat	Bacon
		Beef, burger
		Beef, mince
		Beef, roasting piece
		Beef, sausage
		Beef, silverside roast
		Beef, steak
		Chicken, burger
		Chicken, sausage
		Ham, cooked
		Lamb, all cuts
		Lamb, sausage
		Meat stew
		Meatball
		Meatstick
		Mutton, all cuts
		Pate
		Pork, burger
		Pork, fillet
		Pork, mince
		Pork, sausage
		Pork, spare ribs
		Salami
		Veal, all cuts

		Venison, all cuts
	Sweets, confectionery and pastries	Fries
		Pie, meat
	White meat	Chicken, nugget