

Dear Mr/Mrs ,

You have decided to put your diet under the microscope to improve your general health – we would like to be the first to congratulate you on this decision.

» ***What is food to one, is to others bitter poison.*** «
Lucretius (Roman philosopher)

The essential role that the right diet plays in our health and well-being is undisputed. But the manner in which certain foods affect the body is highly personal. For instance, a supposedly healthy food can also cause various complaints. If these are based on an errant immune response and the increased generation of IgG antibodies, this is referred to as a food sensitivity. But, as the consequences of a sensitivity to certain foods are usually only felt days after consumption, it is particularly difficult to make the connection.

The **myfoodprofile** test is the first important step towards tracking down a possible food sensitivity. This guide helps you to understand your **myfoodprofile** test results and the influence of your diet on your body. It aims to encourage you to change your diet to improve your general health. You will find out about which foods may possibly trigger complaints in your body and learn how you can use your test results to alleviate the symptoms while still ensuring a healthy and balanced diet. However, please remember that this nutrition guide is provided merely for information purposes. Comprehensive changes in diet should always be supervised by a dietitian or practitioner.

Please view your test results as a fantastic opportunity to proactively work to improve your health and do not let yourself get discouraged as you travel down this path. We wish you every success and we hope that you will soon be enjoying a pain- and discomfort-free life.

Kind regards,



my food. my health.

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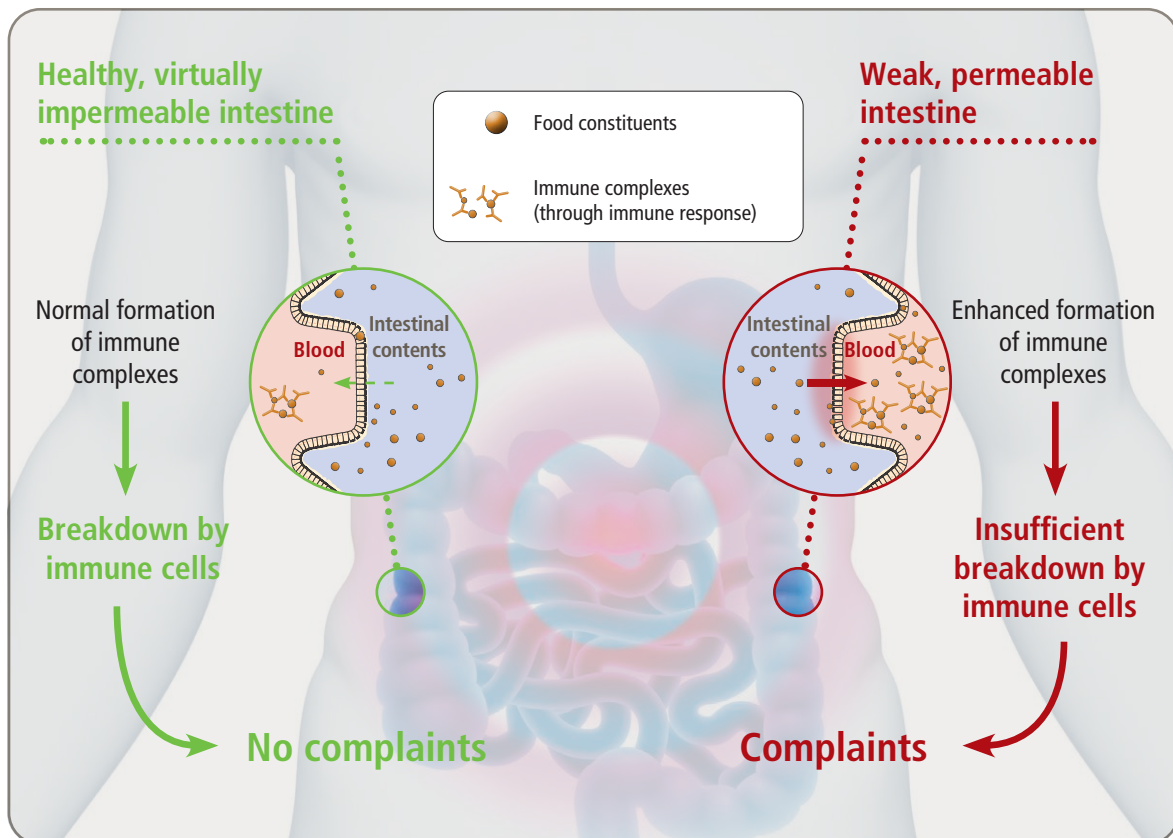


1. A closer look – food sensitivities

Intestinal health – a key to well-being

The intestine is our body's largest organ and a true miracle of nature that performs a range of tasks. It is not just responsible for digestion, it also plays a key role in our immune defence. The intestinal wall forms an almost impassable mechanical barrier that prevents the penetration of bacteria, viruses and other pathogens into the body. What is more, around 70% of our immune cells call the intestine home. Together, with more than 200 types of intestinal bacteria, called intestinal flora, they play a vital role in the body's immune defence.

An intact intestine ensures that food does not harm the human body when a person has a healthy and balanced diet. But influences such as stress, certain medicinal drugs, infections, alcohol and an unhealthy diet can upset the balance and make the intestinal wall more permeable. This allows greater amounts of larger food components, which have not been completely broken down, into the blood and can trigger an overreaction by the immune system (► Fig. 1). Possible consequences include chronic inflammation. Our intestine therefore has a key function for increased well-being and improved health.



1 How a food sensitivity can arise

What actually is a food sensitivity, and what is it not?

a) Food sensitivity

A food sensitivity is not noticed immediately after consuming a certain food. Instead, **complaints** (▶ Fig. 2) develop slowly and only become noticeable with a **delay** of a few hours or even days so that the connection between the causative agent and the complaints is not always clear. They are caused by an **excessive immune response** to what are actually harmless food constituents, which is associated with the **generation of IgG antibodies**. This mechanism is usually used as a defence and to protect the body from intruders, typically pathogens such as viruses and bacteria. The antibodies target certain parts of these pathogens; in the case of a food sensitivity, they target the constituents of the foodstuff called **antigens**.

Because these kinds of immune responses are a normal physiological process, even healthy people may have an IgG reactivity to certain foods. But if large amounts of partly digested food find their way out of the intestine into the blood, e.g. due to greater intestinal permeability, this generates greater numbers of immune complexes comprised of food antigens and antibodies (▶ Fig. 1). If these are not adequately broken down, there is a risk that they will circulate in the bloodstream and accumulate in various tissues and organs where they then encourage chronic inflammation processes, which can lead to permanent complaints. But if the triggers of the inflammation processes are identified and they are avoided for a certain period, the inflammation can subside – exactly what is needed for the alleviation of symptoms and greater well-being!



Gastrointestinal complaints



Fatigue



Weight problems



Skin problems

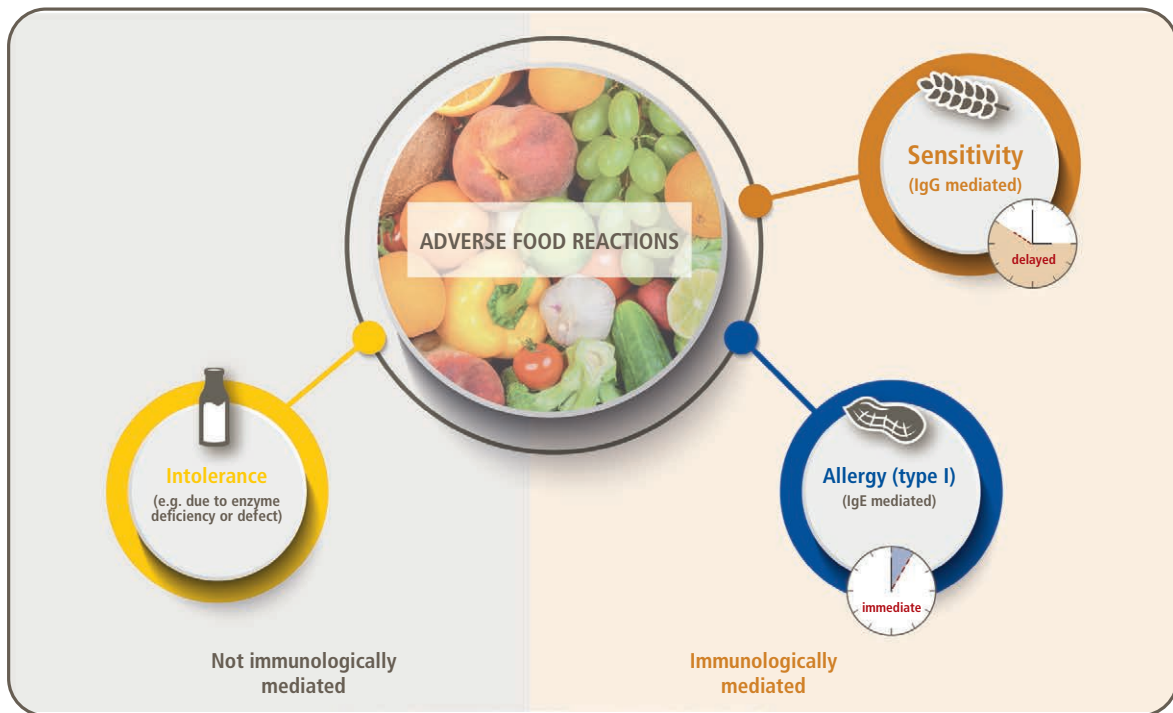


Headaches / migraines



Joint problems





3 Different forms of adverse food reactions

Your **myfoodprofile** results show you the foods to which your immune system has a stronger response. Changing your diet according to the results may help you to quickly succeed in improving your general health.

Tip: Speak with your dietitian or practitioner about modulation of the gut microbiota as a possible supplement to the **myfoodprofile** diet concept.

However, it is important to know that food can also trigger adverse food reactions in other ways, for instance due to a food allergy or a food intolerance. Learn more about the differences below.



b) Food allergy

Just like food sensitivity, a food allergy is also an immunologically mediated adverse food reaction (▶ Fig. 3). But a key difference is the type of antibodies produced (immunoglobulins, Ig). When an allergy exists, **class E antibodies** are produced (IgE), which mediate the **immediate release of the inflammatory mediator histamine**, among other things. The **symptoms** of a food allergy are therefore usually felt **within a few minutes** of consuming the relevant food. Typical allergic reactions include skin rashes, eye/respiratory/digestion problems as well as cardiovascular problems. In extreme cases, a food allergy can also lead to a life-threatening anaphylactic shock, e.g. in the case of a peanut allergy. As the initial symptoms occur soon after the food is ingested, the triggering foods are often easy to identify.

fy. In people with a food allergy, in contrast to a food sensitivity, even tiny amounts of the food can lead to allergic reactions, so consumption of the specific food must be strictly avoided, usually for life. Besides peanuts, the following foods are the most common triggers of food allergies: eggs, milk, fish, molluscs, celery, grains containing gluten, nuts, mustard, sesame seeds, soybeans, lupins. Food, pollen or even insect venom allergies are usually verified by a prick test (skin test) or, alternatively, a blood test for IgE antibodies.



c) Food intolerance

By contrast, a food intolerance is not immunologically mediated and is often caused by an **enzyme deficiency or defect**. This means that certain food constituents (e.g. lactose or fructose) cannot be completely broken down. For instance, people who suffer from lactose intolerance are not able to adequately break down the lactose in milk due to a deficiency of the enzyme lactase. Typical complaints include diarrhoea, stomach pains as well as nausea and vomiting, which usually occur a few minutes to a few hours after the consumption of milk (products). The quantity of the triggering food that can be tolerated differs significantly from one person to the next. Some food intolerances have similar symptoms to allergies, but without the presence of antibodies. These are referred to as pseudoallergies. Potential triggers of pseudoallergic reactions include substances that naturally occur in food (e.g. biogenic amines, such as histamine) and additives, such as preservatives as well as colouring and flavouring agents (e.g. monosodium glutamate).



In summary:

A food sensitivity is an overreaction by the immune system with the enhanced generation of IgG antibodies to combat certain constituents of the food. They differ considerably from food allergy as well as food intolerance, both of which **cannot** be detected by a **myfoodprofile** test.





2. An overview – the meaning behind your myfoodprofile results

The **myfoodprofile** test analysed the reactivities of IgG antibodies to certain foods in your blood sample. Your result report provides an overview of these foods. The number and colour of the circles assigned to you tells you the extent to which your body reacts to the tested foods (▶ Fig. 4). The strength of your IgG immune response indicates which foods may contribute to your complaints.

What do the three reaction classes mean for you? *



Your body does not react or only displays a weak reaction to foods marked in green. You can consume these foods without restriction, provided that you do not suffer from a food allergy, a food intolerance or coeliac disease (▶ Chapter 4, see Gluten sensitivity).



Foods labelled in yellow trigger a stronger IgG immune response. You should limit the consumption of these foods to no more than once or twice a week as part of a rotation diet. You can find detailed information in ▶ Chapter 3.



Foods labelled in red trigger a very strong IgG immune reaction. You should completely avoid these foods for at least twelve weeks. After this elimination phase, the foods can be re-integrated as part of a provocation diet. ▶ Chapter 3 contains further recommendations.



** The dietary recommendations indicated merely serve as a guide. Please always discuss dietary changes with your dietitian or practitioner.*


! Please note:

Not every food to which your immune system responds with higher IgG reactivity automatically triggers complaints. The complex interaction between nutrition and health means that you may not suffer from any complaints. If you have higher IgG reactivities but no complaints, there is no need to unnecessarily restrict your diet.

When looking through your test results, you may be surprised that you have increased IgG reactivities to certain foods that you normally consume only rarely, if at all. This could be due to cross-reactions (▶ Chapter 3).

Your **myfoodprofile** test results may perhaps not indicate any, or only a slight increase in food-specific IgG antibody reactivities for food that you have not consumed over a period of two to three weeks before the test. In this case, it is possible that you may still have a sensitivity to these foods. For example, if you have not consumed milk or dairy products for an extended period, you may have a milk sensitivity, even if your test did not indicate any elevated milk-specific IgG reactivity.

YOUR PERSONAL RESULTS IN DETAIL



SYNLAB

Patient name:
Bloggs, Joe

Laboratory:
The example lab

Date of birth:
01.01.1970


Date:
06.12.2022

Patient ID:
myfood

Tested foods:
216

IgG Food Sensitivity

YOUR PERSONAL RESULTS AT A GLANCE



171

171 foods with **low** food-specific IgG levels


36

36 foods with **elevated** food-specific IgG levels

9

9 foods with **highly elevated** food-specific IgG levels

Please note that the **myfoodprofile** test is not used to determine IgE class antibodies as they occur in classic food allergy. **myfoodprofile** is a semi-quantitative test for the determination of food-specific IgG antibodies. The results are given in classes, which are shown colour-coded for more clarity. The additionally given standardised measurement values (relative units) are for information purposes only. The number of foods actually tested is more extensive than shown since some foods are tested for IgG antibodies in mixtures. All dairy products are made from cow's milk unless otherwise stated.



Intensity of reaction	Fish & seafood	Intensity of reaction
≤7.5	Trout	≤7.5
≤7.5	Herring	≤7.5
≤7.5	Crab	≤7.5
≤7.5	Octopus	≤7.5
≤7.5	Haddock	≤7.5
11.5	Monkfish	≤7.5
16.0	Sardine	≤7.5
16.4	Ocean perch	≤7.5
17.4	Sole	≤7.5
21.1	Shrimp/prawn	≤7.5
23.6	Caviar	≤7.5
25.7	Eel	≤7.5
27.6	Pike	14.0
33.3	<i>Spirulina</i> spp.	14.3
>50.0	Gilthead seabream	15.3
>50.0	Venus clam	18.0
	Carp	18.1
	Turbot	20.8
	Sea bass	21.3
	Tuna	24.9
	Crayfish	26.6
	Anchovy	29.3
	Mackerel	30.5
	Salmon	32.8
	Oyster	35.9
8.7	Squid	>50.0
15.7	Swordfish	>50.0
16.6	Lobster	>50.0
18.4	Codfish	>50.0
28.7		
44.3		
46.6		
>50.0		

Relative units: ≤15 >15-≤25 >25-≤50 >50

4 The myfoodprofile result report with the personal test

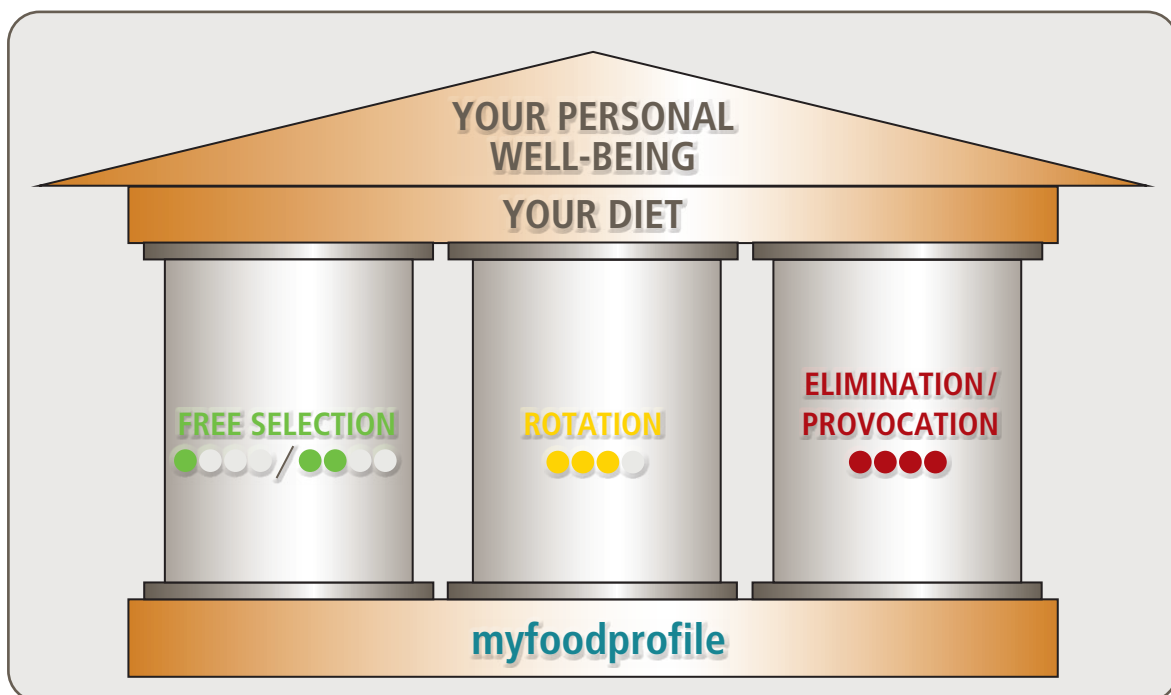
3. Change for the better – adapting your diet

What you should know before you get started

The **myfoodprofile** test results give you an overview of various foods and the associated IgG reactivities that were detected for you. By using these results to change your diet, you can find out which of the foods to which you have an above-average IgG reaction according to the results report may be causing you complaints.

The three key pillars of the **myfoodprofile** diet concept are the elimination/provocation, rotation and the free selection of certain foods (▶ Fig. 5). Before describing this in greater detail, we would like to draw your attention to four important points that you should note before changing your diet:

- > The **myfoodprofile** diet concept cannot be used as a substitute for advice by a doctor, dietitian or practitioner, which we strongly advise you to obtain. If you suffer from a disease, are pregnant or regularly take medication, it is particularly important that you consult your doctor to discuss your dietary changes in advance.
- > The **myfoodprofile** test exclusively supports the detection of food sensitivities. This test does not provide any information on food intolerances, allergies or coeliac disease (▶ Chapter 4, see Gluten sensitivity). If you suffer from such a condition, you need to continue to avoid the triggering foods – even if the relevant **myfoodprofile** test does not indicate that this is necessary.



5 The myfoodprofile diet concept and its three pillars

- > In some people, a change in diet can lead to a deterioration in general health. But this normally passes within a few days. Make sure that you maintain a balanced diet and drink plenty of fluids. If your health deteriorates drastically or severe complaints last for several days, please immediately consult your dietitian or practitioner.
- > Take the time to carefully read through this guide and take care when preparing your dietary plan. Try out new recipes and make sure that you buy the ingredients you need well in advance. Conscious planning will make it easier to change your diet.



Changing your diet

To give your body the opportunity to allow inflammation processes to subside, you should reduce or temporarily completely eliminate the consumption of foods that trigger a strong defence response by your immune system.

As part of the **myfoodprofile** diet concept, we therefore recommend avoiding food to which you react strongly (●●●●) for a certain amount of time. This is called an **elimination diet**. The eliminated foods are then gradually re-integrated into your dietary plan (**provocation diet**). At the same time, you should also reduce the consumption of foods to which you have increased IgG reactivities (●●●●) in the form of a **rotation diet**. ▶ Chapter 5 describes the specific foods that this involves in your case.



Food in category ●●●●●	Week 1							Week 2							Week 3							
	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	
Food 1	■				■				■					■				■				■
Food 2		■				■				■				■					■			■
Food 3			■				■				■				■		■					■


■ Consumption of moderate quantities of the food permitted

6 Example of a rotation diet with three foods

a) Rotation diet

A varied dietary plan is important for a balanced diet. The rotation principle intends to enable a diverse food selection to supply your body with all the nutrients it needs as well as to reduce the consumption of foods from the ●●●●● category.

A rotation diet means that you consume a certain selection of ●●●●● foods on the first day, which you then avoid for the next three days. You can then once again consume these foods on the fifth day (▶ Table 6). You should essentially avoid consuming ●●●●● foods more than once or twice a week. Try to find a practical way to keep your dietary plan as varied as possible.


 **Tip:** Keep a dietary record, including a symptom diary. This is an easy way to maintain an overview and lets you document changes in symptoms as well as integrate new eating habits into your daily routine. ▶ Chapter 7 contains a template that you can use for this purpose.



b) Elimination diet

Foods in the ●●●●● category should be avoided for at least twelve weeks. Try to replace these with foods labelled in green in your result report (●●●●●/●●●●●). Create a dietary plan that is as varied as possible and be creative! The overview of the vitamin and mineral content of various foods in ▶ Chapter 6 helps you find appropriate alternatives to cover your daily requirements. Please consult your dietitian or practitioner for more detailed information.


For example: Do your results indicate strong IgG reactivities to gluten or wheat? Then you can replace your breakfast bun with buckwheat bread, yogurt with fruit, scrambled egg, quinoa muffins or even porridge.

 **Tip:** If it seems impossible to avoid all the ●●●●● foods, start with a selection. Start off just avoiding the four or five foods that you previously consumed most frequently to test whether this alleviates the symptoms. Often, it is the foods that we eat most frequently that cause complaints. But if you do not notice an improvement, you should avoid all ●●●●● foods for at least twelve weeks.

c) Provocation diet



The elimination phase has given your body the chance to alleviate existing inflammation processes. This should have led to an improvement in your general health. Now you can start to gradually re-integrate the foods that you avoided during the elimination phase into your diet. Give yourself plenty of time and do not try to do too much at once. Start with one food and pay attention to whether your complaints return over the following three days. If they do not, you can permanently include it in your dietary plan. However, if you notice complaints, we advise avoiding this food entirely for at least a year. Consume reintroduced foods only once or twice a week at the most, just like with the rotation diet (▶ Table 7).



Food in category 	Week 1–12 (Elimination)	Week 13							Week 14							Week 15						
		Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Food 1																						
Food 2																						
Food 3																						

 Consumption of moderate quantities of the food permitted

7 Example of an elimination diet with subsequent provocation phase for three foods

For example: You would like to reintroduce wheat to your diet. First, try to consume products that contain wheat only, e.g. one to two slices of wheat bread without any topping or a small bowl of couscous, during the provocation phase. If you do not notice any complaints, next you can enjoy your breakfast bun with your favourite topping – provided – that this is (a)  /  food.





Monitor your symptoms

Pay particular attention to your body during the provocation phase! Monitor whether and what kind of changes occur. Does the reintroduction of a food lead to the recurrence of certain complaints? The provocation phase with close monitoring of the symptoms plays a critical role in identifying the foods that contribute to your complaints. Use the provocation diet record and symptom diary to document the foods consumed and all perceived complaints. This lets you identify connections between the two. A template for this kind of record is provided in ► Chapter 7.

Other important details

Living with food sensitivities is not always easy. You may have to avoid some ingredients of your favourite dishes for an extended period of time. But do not get discouraged, instead try to view it as an opportunity to become more familiar with your body and your nutrition as well as to discover tasty new dishes! There are no limits to your imagination. Even with a food sensitivity, you can have a healthy and balanced diet and enjoy a feeling of well-being.



Please note:

Consult a dietitian or practitioner to assist with the implementation of the **myfoodprofile** diet concept.

If the change in diet does not lead to an improvement, it is possible that you are still consuming foods that encourage inflammatory processes. Everyday products (e.g. cosmetics) can also contain problematic foodstuffs. Try also avoiding ●●●●○ foods for at least twelve weeks and reduce the consumption of ●●○●○ foods as part of a rotation diet.

But your complaints may also be caused by other factors. Please consult your doctor if the change in diet does not prove to be successful.





Tips for changing your diet:

- > Do not worry if you do end up consuming a ●●●● food once or twice during the elimination phase. It is possible that your complaints may return. But, as it is primarily foods that are consumed frequently and in large quantities that are the problem, your complaints should quickly subside as soon as you once again consistently avoid the food.
- > Use the information on foods and their constituents in ▶ Chapters 5 and 6 to keep your dietary plan as varied as possible and give your body all the important nutrients that it needs.
- > And do not forget fibre! Your intestine will thank you, as fibre regulates the intestinal activity and ensures a balanced intestinal flora.
- > Pay particular attention to ready-made products. These often contain ingredients that you may not expect. What is more, some common foods may be referred to using different names (▶ Chapter 4). So always carefully check the information and labels on the packaging. This also applies to food supplements and cosmetic products.
- > Preferably avoid ready-made products and prepare your meals fresh using natural ingredients. This gives you a clear overview of the foods that you are eating.
- > Try to eat small portions throughout the day! Very big meals can impair your digestion.
- > Avoid spicy, greasy and heavily roasted foods. These can stress and irritate the digestive tract.



- > Cold dishes should be prepared with unhydrogenated, cold-pressed edible oils, such as linseed oil or rapeseed oil. These are high in unsaturated omega-3 fatty acids, which have an anti-inflammatory effect. Did you know that fatty cold-water fish are another excellent source of omega-3 fatty acids?
- > Drink plenty of fluids. A good guide is that an adult needs to drink two to three litres of fluid every day. We recommend primarily drinking unsweetened beverages that do not contain additives. For example, you can flavour your drinking water with a slice of citrus fruit or fresh herbs. Herbal tea or hot water poured over ginger is another good choice.
- > Avoid coffee, green and black tea as well as alcohol where possible, particularly at the start of your change in diet.
- > Eat consciously! Because it is not just important what you eat, but also how you eat it. So give yourself time, eat slowly and savour the meal. Avoid distractions while eating, such as reading the newspaper, watching TV or using your mobile phone.
- > Also reduce the hectic pace and stress of everyday life where possible. Stress can have a detrimental impact on your body in a variety of ways and also impair the integrity of your intestine.
- > Be active and practice sports to get your body and your intestine moving. Exercise is good for your general health.
- > And finally: make sure that you get an adequate amount of restful sleep. This is important for your metabolism and your immune system and has a whole range of positive effects on your body and mind.



Cross-reactions

Does your result report indicate increased IgG reactivities for foods that you have not eaten for a long time / only eat rarely / have never eaten? This could be due to cross-reactions: in this case, antibodies no longer just detect the antigen against which they were actually formed (▶ Chapter 1, see “What actually is a food sensitivity, and what is it not?”) but also antigens that are very similar to the original antigen, even if they originate from different sources, e.g. different foods.

To date, antigens and their cross-reactions have not been adequately researched for food sensitivities – although this is not the case for allergies. For this reason, allergy diagnostics are used as a guide and it is assumed that the same cross-reactions also exist for food sensitivities. In the case of allergies, the antigens against which the immune system produces antibodies are called allergens (this term is also used for food antigens in the following).

Cross-reactions cannot just occur between different food allergens, but also between food allergens and inhalation allergens, which spread in the air and are inhaled (e.g. pollen or mites). For instance, some individuals who are allergic to tree pollen cannot tolerate apples. Antibodies that their body has actually developed to combat tree pollen allergens also detect apple allergens so that the consumption of an apple leads to an allergic reaction. The following table provides an overview of possible cross-reactions between inhalation and food allergens that are known for IgE antibodies (as part of type I allergies) (▶ Table 8).



Inhalation allergens	Possible cross-reactions with food allergens	Frequency of cross-reactions
Tree pollen	Apple, apricot, carrot, celery, cherry, fig, hazelnut, kiwi (green), nectarine, peach, plum, potato, soy	Frequent
Mugwort pollen	Carrot, celery, mango, spices, sunflower seeds	Occasional
Natural latex	Acerola cherry, avocado, banana, celery, kiwi, mango, papaya, peach, pineapple, potato, sweet chestnut, tomato	
<i>Ficus benjamina</i>	Avocado, banana, fig, kiwi, papaya, pineapple, possibly also breadfruit and jackfruit	Rare
Dust mites	Shellfish and molluscs	
Animal dander	Meat	
Feathers	Egg, entrails, poultry	Possible
Ragweed pollen	Banana, cucumber, melon, zucchini	
Grass and cereal pollen	Bran, flour, legumes, tomato	

8 Overview of possible cross-reactions between inhalation and food allergens (source: adapted from Worm et al., Leitlinie Nahrungsmittelallergie infolge immunologischer Kreuzreaktivitäten mit Inhalationsallergenen. Allergo J 23 (2014))







4. What to do – dealing with common food sensitivities

Dealing with food sensitivities is not always easy. Some foods are easy to cross off your daily menu, but this is not the case for others. The following provides general information and advice on some of the most common triggers of food sensitivities. They may not necessarily reflect your individual results.


Gluten sensitivity

Gluten is a mixture of proteins that is present in many cereals and plays a key role in the baking properties of flour. Cereals that contain gluten include **wheat, spelt, green spelt, rye, barley, triticale** and “older” cereals, such as **emmer, einkorn wheat and Khorasan wheat**. Gluten is also found in products made of processed cereals that contain gluten, e.g. in semolina, couscous, bulgur, bran, wholemeal, breadcrumbs and malt.

If your **myfoodprofile** test results show a very strong immune response to gluten (●●●●), you should avoid consuming foods that contain gluten for at least twelve weeks, even if your test did not indicate any increased IgG antibody response to individual types of cereal that contain gluten.

The following table provides an overview of foods that contain gluten and appropriate alternatives to support your gluten-free diet (► Table 9).



You may initially find the prospect of avoiding gluten overwhelming given its presence in countless everyday dishes. But you will see that many foods are naturally gluten-free. What is more, the market for gluten-free products is growing, so that tasty and healthy alternatives can now be found for many foods containing gluten. Gluten-free products are often labelled as “gluten-free” or with corresponding symbols, such as a struck-through ear of wheat (e.g. ). This labelling guarantees that a certain gluten value is not exceeded.

Category	Products that (can) contain gluten *	Alternatives
Cereals and cereal products	Wheat, spelt, einkorn grain, barley, green spelt, rye, emmer, Khorasan wheat, oats (contaminated with cereals that contain wheat), flours produced with the aforementioned cereals.	Millet, taf, sorghum, fonio, quinoa, amaranth, oats (gluten-free)**, buckwheat, rice/wild rice, Flours: corn, potato, almond, coconut, chestnut, chickpea, linseed, pea, mung bean, soy, lupin, hemp, tapioca, locust bean gum
	Bread, rolls, cakes/pastries, crackers, pizza dough, rusk, waffles, baking wafers	Bread varieties, rolls, cakes/pastries, crackers, pizza dough, rusk, waffles and baking wafers labelled as gluten-free or made from gluten-free flour varieties (see above), corn tortillas, arepas
	Muesli mix, wholegrain porridge, wheat sprouts	Porridge made from gluten-free oats, millet, buckwheat, amaranth, quinoa, muesli mix (gluten-free)
	Pasta	Gluten-free pasta (e.g. made from pea, linseed, chickpea, buckwheat or corn flour), Asian glass or rice noodles
Fish and meat	Processed or breaded meat (e.g. schnitzel, meatballs, meat in thick sauces), sausage products	Fresh or frozen meat (unprocessed), sausage products without gluten additives
	Processed or breaded fish	Fresh or frozen fish (unprocessed)
Meat substitute	Seitan	Gluten-free meat substitute products (e.g. tofu)
Milk and dairy products	Light products, dairy products with added flavouring, fruit preparations or muesli mix/dough additive, cream cheese preparations, processed cheese	(Largely) unprocessed foods, e.g. natural yogurt, kefir, curd cheese, cream, cheese (e.g. gouda, feta, mozzarella, parmesan, etc.)
Fruit and vegetables	Potato products, such as dumplings, potato pasta, gnocchi, potato powder, potato snacks (e.g. chips)	Potatoes, polenta, gluten-free gnocchi and potato pasta
	Fruit preparations, fruit concentrate, frozen vegetables with flour (e.g. creamed spinach)	Fresh or frozen fruit and vegetables (unprocessed)
Beverages and spirits	Malt coffee, cereal coffee, beer, whiskey	Mineral/table water, fruit/vegetable juices, coffee, unflavoured herb tea, black tea, green tea, gluten-free beer
Miscellaneous	Ready-made sauces, soy sauce, soup seasoning, sauces and soups thickened with flour	Gluten-free ready-made sauces or self-prepared sauces, tamari, gluten-free soup seasoning

* The products mentioned above do not necessarily contain gluten, always read the list of ingredients or contact the manufacturer! This table is not exhaustive.

** For many people suffering from coeliac diseases, gluten-free oats are a valuable alternative to other cereals that contain gluten. It can therefore be assumed that oats are a tolerated alternative even where higher IgG antibody reactivities are recorded for gluten. Please consult your dietitian or practitioner.

9 Alternatives to products that contain gluten



Tips if you have a gluten sensitivity:

- > Change your diet while keeping things as simple as possible, get creative and experiment with gluten-free foods! You can easily change your favourite recipe to suit your needs and, for example, for pasta with tomato sauce, simply use pasta made of corn, rice or legumes instead of durum wheat pasta.
- > Heavily processed foods and light products in particular can contain gluten and foods are often dusted with flour so that, for example, they become crispy when deep-frying. So it is important to check the food packaging, as this must indicate any use of gluten/cereals that contain gluten or the existence of gluten must be clear from the name of the food.
- > Whole-grain products made from cereals containing gluten are an important source of fibre, which is essential for intestinal health. So make sure that you maintain your supply of fibre when switching to a gluten-free diet! Fibre is contained in many naturally gluten-free foods, such as various varieties of fruit and vegetables, pseudocereals (e.g. buckwheat, quinoa, amaranth), legumes and particularly in many nuts and seeds, such as linseeds, chia seeds and psyllium husks. In addition, cereals that contain gluten also provide important vitamins and minerals (e.g. B vitamins, potassium, magnesium, iron, calcium). You can use suitable alternatives to cover your dietary requirements (▶ Chapter 6).



 **Please note:**

A gluten intolerance can also be due to coeliac disease, an immunologically mediated chronic inflammatory bowel disease. In people with coeliac disease, a misguided immune response means that the consumption of foods that contain gluten leads to severe inflammation of the intestinal mucosa, often resulting in degeneration of the intestinal villi. As a result, a lifelong gluten-free diet is absolutely essential for sufferers. Please be aware that coeliac disease cannot be detected by a [myfoodprofile](#) test. Please consult your doctor for a discriminatory test.





Cow's milk sensitivity:

Milk is an important food that is predominantly sourced from cows, goats or sheep, but also camels and horses. The proteins contained in milk can be divided into two fractions: about 80 % casein and around 20 % whey proteins.

A sensitivity to cow's milk may extend to all or just one/some milk protein(s), which leads to varying tolerances to dairy products. While casein is heat-stable, the protein structure of whey proteins, such as beta-lactoglobulin, can change if it is boiled at 100 °C for ten minutes. This means that boiled milk is much better tolerated by some people with a sensitivity to whey proteins. In the event of a very strong immune response (●●●●) to cow's milk, casein and/or beta-lactoglobulin, we advise avoiding cow's milk and cow's milk products for at least twelve weeks. If a high reactivity to sheep's and/or goat's milk also exists, products that contain this milk should also be avoided.

Constituents of cow's milk can be found in many foods, such as in light products, as some fat substitutes are produced based on whey proteins. So make sure that you always pay close attention to the list of ingredients. The following references indicate the presence of cow's milk proteins: **casein, lactoglobulin, lactalbumin, hydrolysed milk, powdered milk, skimmed milk powder, whole milk powder, whey proteins, whey powder, condensed milk**. In addition, cow's milk proteins are also added to many cosmetics.

The following table provides an overview of products that can contain constituents of cow's milk and indicates alternatives (► Table 10).



Category	Products that (can) contain cow's milk proteins *	Alternatives
Cereals and cereal products	Bread, toast, rolls, rusk, fried batter pearls, some mueslis	Bread, toast, rolls and rusk without milk constituents
	Pastries, waffles, cream cakes	Pastries and waffles without milk constituents (e.g. with rice, oat, soy or almond milk)
Fish and meat	Some sausage products (e.g. ring bologna, bratwurst, meat spread), breaded meat	Fresh or frozen meat (unprocessed), sausage without milk constituents (e.g. raw sausage such as salami or cervelat sausage)
	Breaded fish, fish in cream sauce	Fresh or frozen fish (unprocessed)
Milk and dairy products	Cow's milk, flavoured milk drinks (e.g. chocolate milk), buttermilk	Soy, rice, oat, cashew, almond, coconut milk, hemp drink, goat's and sheep's milk **
	Yogurt, kefir	Plant-based yogurt (e.g. soy, coconut, almond)
	Dairy ice cream	Sorbet, ice lollies, vegan ice cream
	Crème fraîche, sour cream	Plant-based crème fraîche and sour cream (e.g. soy, oats)
	Butter	Margarine (with no milk constituents), vegan spreads, tahini (sesame paste), almond butter, peanut butter, oils (e.g. cold-pressed olive oil)
	Cream	Plant-based cream (e.g. soy, oats, rice)
	Curd cheese	Plant-based curd cheese (e.g. soy, almond)
	Whey (powder)	Soy, rice, oat, cashew, almond, coconut milk, hemp drink, goat's and sheep's milk **, plant-based protein powder (e.g. hemp or peas) as a substitute for whey protein powder
	Cheese (almost all varieties)	Goat's and sheep's milk cheese **, plant-based cheese (e.g. soy), plant-based spreads
Egg products	Egg dishes with milk (e.g. scrambled egg, pancakes)	Egg dishes without milk constituents
Fruit and vegetables	Vegetables in cream sauce (e.g. creamed spinach)	Fresh or frozen vegetables (unprocessed)
	Potato products, such as dumplings, croquettes, mashed potato	Freshly prepared dumplings, croquettes, mashed potato without milk constituents
	Creamy soups	Soups without milk constituents
Beverages and spirits	Fruit juices with whey	100 % fruit juice
	Cream liqueurs	Vegan liqueur varieties
Confectionery	Blancmange, rice pudding	Plant-based blancmange and rice pudding (e.g. soy, rice, oats)
	Chocolate cream, chocolate, marzipan preparation, nougat, bonbons, confectionery (e.g. toffee, soft liquorice)	Milk-free chocolate, fruit gums without milk constituents, fruit bars
Miscellaneous	Mayonnaise, ketchup, mustard, sauces / dressings, gourmet salads	Mayonnaise, ketchup, mustard, sauces / dressings, gourmet salads without milk constituents

* The products mentioned above do not necessarily contain milk or dairy products, always read the list of ingredients or contact the manufacturer! This table is not exhaustive.

** If you only record (significantly) increased IgG antibody reactivities to cow's milk, goat's and sheep's milk products may possibly be an appropriate alternative for you.

10 Alternatives to products that contain cow's milk



Tips if you have a cow's milk sensitivity:

- > Cow's milk is an important source of calcium as well as vitamins A, B2, B12, D, biotin, zinc and iodine. So make sure that you replace cow's milk and cow's milk products in your dietary plan with suitable alternatives to cover your dietary requirements. But keep it varied! Do not use the same product instead of cow's milk every day; try to make use of the available alternatives as part of a rotation diet. You will be amazed at the number of options out there (▶ Chapter 6)!
- > Besides vitamins and minerals, cow's milk and cow's milk products are also sources of high-quality proteins and important amino acids. But, for protein intake, always remember: quality before quantity. Animal-based foods, such as meat, fish and eggs are particularly good sources of protein thanks to the amino acids that they contain. A varied diet and the right combination of purely plant-based protein sources (e.g. cereals and legumes, such as rice with soy) or combined plant- and animal-based protein sources (e.g. potatoes with egg) lets you consume important and high-quality proteins even while avoiding cow's milk and cow's milk products. Possible alternative protein sources include fish, meat, egg, cereals / pseudocereals, legumes, potatoes, nuts and seeds, sheep's and goat's milk as well as products that contain these items.



Please note:

A dairy intolerance can be caused by a lactose intolerance or an IgE-mediated milk protein allergy. Both conditions cannot be detected with a **myfoodprofile** test. Please consult your doctor for differential diagnostic clarification.







Egg sensitivity

Chicken eggs consist of the yolk and egg white and are an ideal source of protein, as the proteins that they contain are particularly valuable for the body.

But, if you have a very strong antibody response to egg yolk and/or egg white (●●●●), you should avoid consuming products that contain egg for at least twelve weeks.

As constituents of an egg are used as binding, leavening and raising agents, they can be found in many processed foods. So always pay attention to the list of ingredients. The following references indicate the presence of egg constituents: **whole egg, egg yolk, egg white, powdered egg, egg protein, liquid egg/egg white/yolk, frozen egg/egg white/yolk, dried egg/egg white/yolk, egg oil, pasteurised egg, lecithin (E322, including from plant-based sources, e.g. soy), lysozyme.** Egg proteins are also used as a preservative, e.g. for cheese or beer as well as for fining beverages, such as juices or wines. Products with the “vegan” label are guaranteed not to contain any egg proteins.

The following table provides an overview of foods to avoid as they can contain constituents of egg, and indicates alternatives (► Table 11).



Please note:

Chicken eggs contain a range of different constituents (antigens) that can lead to the formation of antibodies. As a result, your tolerance of foods that contain egg may differ significantly. For instance, you may be able to consume foods with low quantities of egg constituents (e.g. for preserving or fining) without any problems, while having an egg for breakfast leads to complaints. A **myfoodprofile** test cannot clearly indicate which specific egg antigens cause a reaction. It is best if you use your **myfoodprofile** records to document the effect of consuming foods that contain egg. An egg intolerance may also be due to an IgE-mediated egg allergy, which cannot be detected by a **myfoodprofile** test. Please consult your doctor for differential diagnostic clarification.



Category	Products that (can) contain egg constituents *	Alternatives
Cereals and cereal products	Bread, rolls, rusk, glazed pastries	Bread, rolls without egg (constituents)
	Baking mixes	Baking mixes without egg (constituents)
	Pasta	Pasta without egg (constituents)
	Casseroles, gratins, quiches, pies	Casseroles, gratins, quiches, pies without egg (constituents)
	Cakes, tarts, pastries, waffles, biscuits	Self-baked cakes, tarts, pastries, waffles without egg (constituents)
Fish and meat	Breaded meat, meat and sausage products (e.g. bratwurst, scalded sausage, polony, liver sausage, meatballs)	Fresh or frozen meat (unprocessed), meat and sausage products without egg (constituents) as a binding agent
	Breaded fish	Fresh or frozen fish (unprocessed)
Milk and dairy products	Fruit and dairy ice cream	Sorbet
	Cheese rind, grated cheese, reduced-fat cheese	Cheese without lysozyme as a preservative, cream cheese, curd cheese
Egg products	Omelettes, pancakes	Pancakes without egg (constituents)
Fruit and vegetables	Thickened soups, casseroles	Soups, casseroles without egg (constituents)
	Potato products, such as dumplings, croquettes	Self-prepared dumplings and croquettes without egg (constituents)
Beverages and spirits	Egg/cream liqueur, wine, beer	Vegan egg liqueur, vegan wine, vegan beer
	Clear fruit juices	Naturally cloudy or vegan fruit juices
Confectionery	Chocolate, bonbons, marzipan preparation, marshmallows, meringues	Confectionery such as fruit gums, fruit candies and chocolate without egg (constituents)
	Some desserts (e.g. blancmange, mousses, tiramisu)	Self-prepared blancmange without egg (constituents), compote, red fruit jelly, sorbet
Miscellaneous	Ready-meals	Ready-meals without egg (constituents)
	Ready-made sauces and dressings, stock cubes, spice paste	Sauces and dressings without egg (constituents)
	Mayonnaise	Self-prepared mayonnaise without egg (constituents)
	Spreads, gourmet salads, vegetarian sausage products	Spreads, gourmet salads without egg (constituents)

* The products mentioned above do not necessarily contain egg or egg constituents, always read the list of ingredients or contact the manufacturer! This table is not exhaustive.

11 Alternatives to products that contain egg



Tips if you have an egg sensitivity:

- > Eggs are an important source of protein. A varied diet with animal- and plant-based proteins lets you easily ensure your supply of protein even while avoiding eggs. Possible alternative sources of protein are, for example, cow's, sheep's and goat's milk as well as products that contain this milk, fish and meat, cereals / pseudocereals, legumes, potatoes, nuts and seeds.
- > What is more, eggs provide important vitamins and minerals, such as vitamin A, E, D and various B vitamins as well as calcium, iron, iodine, copper, manganese, selenium and zinc. So make sure that you choose suitable alternatives to cover your dietary requirements (▶ Chapter 6).
- > The binding properties of egg mean that it is a common ingredient. But there are clever ways to do without egg when baking and cooking. For example, a good egg substitute is mixing a teaspoon of chia seed or linseed meal with three teaspoons of water and leaving it to soak. You can also simply use apple or banana purée instead of egg. Aquafaba (liquid left over from cooking legumes) is also becoming an increasingly popular alternative to egg, e.g. for making meringue. Get creative and find the right replacement for your recipe!







Yeast sensitivity

Baker's yeast, also called brewer's yeast, has multiple uses in food production. Its beneficial properties are used for raising dough when producing pastry products as well as to produce alcoholic beverages (beer, wine, spirits). Yeast extracts are also used for many other products, which you probably would not even consider at first glance.

If your test results show a very strong IgG antibody response to yeast (●●●●), we advise avoiding products that contain yeast for at least twelve weeks.

The following references on food ingredient lists can indicate the presence of yeast or yeast proteins: **hydrolysed yeast proteins, natural flavouring, yeast extract, nutritional yeast, yeast seasoning, yeast flakes.**

Due to the wide-ranging use of yeast, particularly in ready-made products, you should make sure that you are well-informed before you start your yeast-free diet. The following table (▶ Table 12) provides an overview of products that contain yeast as well as alternatives.



Tips if you have a yeast sensitivity:

- > It is easiest if you prepare fresh meals for yourself. This ensures that you always have full control of all the ingredients that your dishes contain. Discover completely new recipes to try out! For instance, you could use baking powder instead of yeast as the leavening agent when baking your next bread roll.



- > Yeast contains various B vitamins and minerals, such as potassium, magnesium, zinc, selenium, copper, manganese and iron, which is why it is also used in some food supplements (e.g. brewer’s yeast tablets) and cosmetic products. So always remember that food supplements and cosmetic products can contain constituents of yeast. ▶ Chapter 6 provides some suggestions as to how you can cover your daily requirement of B vitamins, even without yeast, through targeted food selection.



Category	Products that (can) contain yeast *	Alternatives
Cereals and cereal products	Bread, rolls, crispbread	Muesli mixes, oat flakes, corn or rice waffles, bread products without yeast (e.g. bread with baking powder as the leavening agent)
	Cakes, biscuits, raised pastries	Cakes and biscuits without yeast
	Pizza dough	Self-prepared pizza dough without yeast
Fish and meat	Marinated or dried meat, some sausage products	Fresh or frozen meat (unprocessed)
	Marinated or dried fish, canned fish	Fresh or frozen fish (unprocessed)
Milk and dairy products	Some varieties of cheese (e.g. parmesan, brie, camembert, Roquefort)	Young cheese (e.g. gouda), cream cheese
Fruit and vegetables	Fermented, overripe fruit and vegetables	Fresh or frozen fruit and vegetables (unprocessed)
Beverages and spirits	Cider, alcoholic beverages such as wine, beer, sparkling wine/champagne, Federweisser, cider, spirits	Freshly squeezed juices, water, tea
Miscellaneous	Ready-meals	Self-prepared dishes without yeast
	Vegetarian/vegan spreads	Yeast-free spreads
	Stock cubes, gravy, packet soups, seasoning	Yeast-free seasoning/stock, self-prepared soups and gravies
	Vinegar, foods containing vinegar, such as salad dressings, ketchup, Worcester sauce, horseradish paste, chili sauce	Self-prepared dressings (e.g. using lemon and olive oil), self-prepared ketchup, chili sauce
	Fermented foods, such as sauerkraut, tofu, soy sauce, tamari, olives, kimchi, miso, relish, Quorn, kefir	Unfermented foods, self-prepared dressings/sauces or salads

* The products mentioned above do not necessarily contain yeast, always read the list of ingredients or contact the manufacturer! This table is not exhaustive.

12 Alternatives to products that contain yeast

5. Reactivity identified – potential triggers of your symptoms

This chapter contains useful information on all foods in relation to which an elevated IgG reactivity was detected in your blood sample. Just like in your result report, the relevant foods are divided into categories and arranged according to your immune response. All the information on the nutrients in the relevant foods is predominantly based on the data provided by the U.S. Department of Agriculture (USDA). The recommendations of the German Nutrition Society (DGE) for nutrient intake were also taken into account. Vitamins and minerals are listed below, if approx. 100 g of the relevant food contains at least ~10% (vitamins) and ~5% (minerals) of the recommended daily intake for adults. At the same time, a guide value of at least 1.5 g of fibre per approx. 100 g applies. Various influences may cause both the nutrient content of foods as well as the bioavailability of individual nutrients to fluctuate. In addition, nutritional requirements differ from person to person and depend on various factors (e.g. age, gender, physical activity). As a result, the following information is by no means exhaustive.



Gluten containing cereals

Wheat flour



- i** Wheat flour can be produced from durum or bread wheat. The wheat flour extract used in this case was sourced from bread wheat. Bread wheat belongs to the Poaceae family and is a grain that contains gluten. In general, the nutritional quality of soft wheat flour is higher as the extraction rate of the flour increases. This is because, as the level of extraction increases, the amount of grain in the flour and consequently also its vitamin, mineral and fibre content also increases. Soft wheat has a lower protein content compared to hard wheat. Just like all grains that contain gluten, wheat must be labelled as an ingredient in accordance with applicable national regulations.
- !** Bread wheat is primarily used to produce bread and pastry products, malt and beer. But sausage products, dumplings, crumbed dishes and sauces may also contain wheat. Wheat germs are used to produce wheat germ oil.
- +** Vitamin B1, B2, B6, biotin, folate, niacin, pantothenic acid, iron, potassium, copper, magnesium, manganese, phosphate, selenium, zinc, fibre, secondary phytochemicals (information relates to wholemeal flour)

Gluten



i Gluten is the general term for a mixture of proteins. Gluten is present in various types of grains and its properties make it a popular ingredient in the food industry. For instance, gluten is vital for the baking properties of flour. What is more, gluten is also used as an emulsifier or carrier of flavouring agents.

! You should avoid all products that use grains that contain gluten (e.g. wheat, rye, spelt, barley, triticale, Khorasan wheat, einkorn wheat, emmer and green spelt). You can find more information in chapter 4.

Spelt flour



i Spelt belongs to the Poaceae family and is a grain that contains gluten. The nutritional quality of spelt flour generally depends on the extraction rate. The higher the rate, the greater the share of the grain and the more vitamins, minerals and fibre the flour contains. Just like other grains that contain gluten, spelt must be labelled as an ingredient in accordance with applicable national regulations.

! Spelt is used to produce pastry products, pasta, alcoholic beverages, cereal coffee and grain milk, among other things. Mueslis and various dishes, such as soups, casseroles and salads can also contain spelt.

+ Vitamin B1, B6, biotin, folate, niacin, pantothenic acid, iron, potassium, copper, magnesium, manganese, phosphate, selenium, zinc, fibre, secondary phytochemicals



Dairy & egg

Egg white, chicken



i A chicken egg consists of the egg white and the egg yolk. Egg white is particularly rich in protein. However, some of these proteins have a high allergenic potential. As a result, the use of chicken eggs as an ingredient needs to be labelled according to the applicable national regulations. A sensitivity to chicken egg white can manifest in different forms, for instance some sufferers are able to tolerate heated egg white, e.g. in the form of hard-boiled eggs. By contrast, in others even consuming poultry meat or eggs of other poultry species (e.g. ducks, quails, geese) can cause complaints.

! Foods that contain (chicken) egg white include meringues, quiches, soufflés, scrambled eggs/omelettes, pasta, pastry products, ice cream, mousses and salad dressings. Egg white or the proteins it contains (e.g. ovalbumin) are also used to fine wine and fruit juices as well as to glaze certain foods. You can find more information in chapter 4.

+ Vitamin B2, biotin, selenium

Egg yolk, chicken



i A chicken egg consists of the egg white and the egg yolk. The egg yolk is richer in fat than the egg white and contains the phospholipid lecithin. Among others, Lecithin is used as an emulsifier for producing various products. Plant-based lecithin is safe for most people with an egg yolk sensitivity. So always pay attention to the list of ingredients. The use of chicken eggs as an ingredient needs to be labelled according to the applicable national regulations. Some people with a sensitivity to egg yolk are also sensitive to the consumption of eggs or the meat of other poultry species.

! Egg yolk is used to produce mayonnaise, sauce Hollandaise, desserts, creams, mousse, ice cream, pasta and various pastry products, among other things. Parts of the egg yolk can also be found in other industrially produced foods. You can find more information in chapter 4.

+ Vitamin A, B1, B2, B6, B12, D, E, biotin, folate, pantothenic acid, iron, iodine, calcium, copper, manganese, phosphate, selenium, zinc

6. A plentiful supply – important nutrients and their sources

You have now discovered a few things about the foods to which you registered an elevated IgG reactivity. The following provides more information about various important nutrients that we should be consuming every day. Both the energy content of our food as well as the composition play a key role in our health and well-being.

Fats

Dietary fats are an important supply of energy for our body and supply it with vital fatty acids that it needs to form cell membranes and messenger substances as well as fatty tissue to protect the body against injuries. In addition, the body can better digest certain vitamins and secondary phytochemicals if they are consumed together with fat. The building blocks of dietary fats are one part glycerol and three fatty acids whose chemical structure determines the properties (e.g. solid/liquid) and the importance of the fat for the body. A distinction is made between

- > saturated fatty acids (e.g. in meat),
- > monounsaturated fatty acids (e.g. in olive oil),
- > polyunsaturated fatty acids (e.g. in cold-water fish, walnuts, rapeseed oil).

Based on our current understanding, polyunsaturated omega-3 fatty acids, such as alpha-linolenic acid, docosahexaenoic acid and eicosapentaenoic acid, in particular have various beneficial health effects. It is

believed that the regular consumption of omega-3 fatty acids has a positive impact on the cardiovascular system, the nervous system, eyesight as well as the immune system and that it reduces the risk of developing various diseases. By contrast, hydrogenated (hardened) fats that contain a large amount of trans-fatty acids as well as animal fats with a high percentage of saturated fatty acids can negatively affect your health. Saturated fatty acids should only account for around 10% of the total energy intake from food.



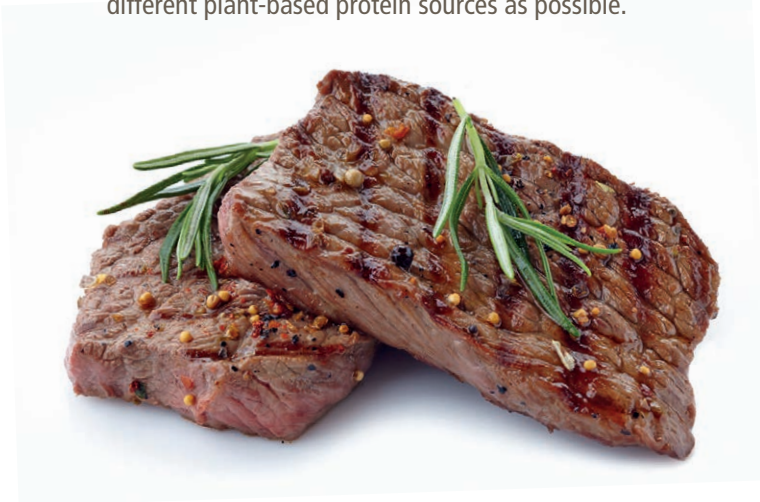
So it is important to remember: both the quantity as well as the type of fat are crucial. You can use the following recommendations as a guide:

- > Avoid hydrogenated (hardened) fats, which are often contained in ready-made products.
- > Use high-quality edible oils, such as rapeseed or walnut oil.
- > Ensure an adequate supply of omega-3 fatty acids, for instance, by eating fatty cold-water fish, such as herring, mackerel, salmon and tuna.
- > Reduce the amount of meat you consume, where necessary.

Proteins

Proteins are vital and are formed by the body from their building blocks, the amino acids. During this process, amino acids are linked together in various combinations to form long molecules: proteins, which take on various tasks in the body. The body can form some amino acids, but not others, meaning that these need to be consumed via proteins in food. But not all proteins are the same: their biological value determines how efficiently a protein can be transformed in the body. While animal proteins generally have a higher value than plant-based proteins, a combination of animal and plant-based protein sources, such as egg and potatoes or milk and cereals, is ideal for a balanced diet. If the body lacks the building blocks of protein, it needs to obtain these building blocks from valuable internal sources and, for instance, break down muscle proteins. To ensure balanced protein consumption:

- > Cover your requirements with suitable sources of protein, such as egg, milk / dairy products, lean meat, fish, molluscs, crustaceans and shellfish, legumes, nuts/seeds, cereals / cereal products, pseudocereals (e.g. amaranth, quinoa).
- > Make sure that you combine animal and plant-based nutrients with plenty of variety.
- > If you are pursuing a vegetarian / vegan diet, consume as many different plant-based protein sources as possible.



Carbohydrates and fibre

Carbohydrates (saccharides) are a particularly important supply and store of energy for the body. Their basic building blocks are called monosaccharides. Carbohydrates are broken down into three groups depending on the number of sugar components:

- > Monosaccharides, such as glucose and fructose
- > Disaccharides, such as lactose and saccharose
- > Oligo- or polysaccharides, such as starch

Mono- and disaccharides (e.g. retail sugar or dextrose) move from the intestine into the blood very quickly and are converted to energy in the relevant target cells. By contrast, complex polysaccharides, e.g. which are found in whole grains or legumes, lead to a slower rise in the blood sugar level and help you feel fuller for longer. As a result, they are considered particularly valuable and should account for the majority of the carbohydrates ingested through food.

Carbohydrates that reach the large intestine largely undigested belong to the group of fibres. They are divided into water-soluble and -insoluble. The regular consumption of food rich in fibre promotes intestinal health, as water-insoluble fibre (e.g. from wholemeal cereals, vegetables, legumes) help to increase the stool volume, which accelerates the intestinal passage, while water-soluble fibre (e.g. from wholemeal cereals, Jerusalem artichokes, apples, psyllium husks) help to feed the intestinal bacteria. This supports the diversity of the bacteria in the intestine and helps to keep the intestinal mucosa intact. Fibre is also considered to have additional beneficial health properties: for instance, a fibre-rich diet is associated with a reduced risk of heart

attacks, arteriosclerosis, type 2 diabetes and colorectal cancer.

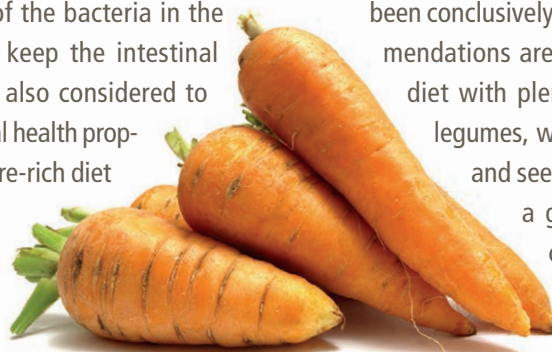
We recommend the following for a balanced consumption of carbohydrates and fibre:

- > Make sure to eat plenty of foods with complex polysaccharides / fibre (e.g. wholemeal instead of white flour products, legumes, nuts / seeds, fruit and vegetables).
- > Avoid ultra-processed foods, as these often contain large amounts of monosaccharides.
- > Drink plenty of fluid when consuming large amounts of fibre. Otherwise there is a risk of constipation.
- > Gradually move towards a fibre-rich diet to prevent complaints, such as bloating and flatulence.

Secondary phytochemicals

The term “secondary phytochemicals” includes a whole range of different plant-based substances whose chemical structure and properties mean that they can be assigned to various groups (▶ Table 13).

The latest findings indicate that, while secondary phytochemicals are not essential for the human body, it seems that they can reduce the risk of the development of various diseases through different modes of action. As the diverse range of effects that secondary phytochemicals have on health has not been conclusively researched, optimal intake recommendations are not currently available. A varied diet with plenty of different fruit, vegetables, legumes, wholemeal products as well as nuts and seeds is a sensible approach to ensure a good supply of secondary phytochemicals. Nutrition experts current-



ly recommend the consumption of five portions (one portion ≈ one handful) of different varieties of fruit and vegetables every day. Take advantage of the huge variety on offer!



Secondary phytochemicals	For example, contained in ...	Possible effects on health
Flavonoids	Apples, pears, grapes, cherries, plums, soft fruit, onions, kale, eggplants, soy, black and green tea, etc.	Reduces the risk of cardiovascular disease and certain cancers, modulates the immune system
Glucosinolates	(Red) radishes, all varieties of cabbage, cress, mustard	Reduces the risk of certain cancers, modulates the immune system
Carotenoids	Carrots, tomatoes, bell peppers, green vegetables (e.g. spinach, kale), grapefruit, apricots, melons, pumpkin	Reduces the risk of cardiovascular disease and certain cancers as well as age-related eye diseases, modulates the immune system
Monoterpenes	Mint, lemons, caraway seeds	Lowers cholesterol
Phenolic acids	Coffee, tea, wholemeal products, white wine, nuts	Reduces the risk of certain cancers
Phytoestrogens	Cereals and legumes (e.g. soybeans), flaxseeds	Reduces the risk of cardiovascular disease and certain cancers, increases bone density, modulates the immune system
Phytosterols	Nuts and plant seeds (e.g. sunflower seeds, sesame, soy), legumes	Reduces the risk of cardiovascular diseases, lowers cholesterol
Saponins	Legumes, soy, asparagus, oats, liquorice	Protects against pathogens (e.g. bacteria)
Sulphides	Onions, leek, garlic, chives	Reduces the risk of certain cancers, lowers cholesterol and blood pressure

13 Properties of secondary phytochemicals (source: adapted from www.dge.de/wissenschaft/weitere-publikationen/fachinformationen/sekundaere-pflanzenstoffe-und-ihre-wirkung (as at: 06/05/2021))

Vitamins and minerals

Vitamins are essential organic compounds that are involved in many metabolic reactions. They are divided into fat-soluble and water-soluble vitamins. To increase the **bioavailability** of fat-soluble vitamins, they should be consumed together with a small amount of fat. For example, you can add nuts or some vegetable oil to a carrot salad so that your body can make optimal use of the beta-carotene (pro-vitamin A) from the carrots.

Minerals are vital inorganic nutrients that the body cannot produce itself. They are divided into bulk and trace elements: while the body contains large amounts of bulk elements, only small concentrations of trace elements are required.

Vitamins and minerals perform various vital functions in the body. But no food contains adequate quantities of all the necessary vitamins and minerals, so your dietary plan should be as varied as possible – especially as part of an elimination diet, as you need to make up for the absence of important nutrients when you avoid certain foods.

! Please note:

The **vitamin and mineral content** of foods is influenced, in some cases significantly, by external factors such as cultivation, storage and preparation. This means that this content can vary for identical foods. For instance, high heat (when roasting, deep-frying or boiling) as well as extended soaking can considerably reduce the vitamin and mineral content of your foods. As such, we recommend using gentle methods of preparation, such as steam cooking or stewing as well as using the cooking water as a base for sauces or soups. Also supplement your diet with raw food (fruit and vegetables) as often as possible.

What is more, personal factors play a role in the absorption of vitamins and minerals (▶ Chapter 5). The extent to which a food helps to cover your vitamin and mineral requirements also depends on the **bioavailability** of the substances it contains. This term refers to how easily individual substances can be absorbed and metabolised by the body as not all nutrients consumed in food are available in full. The bioavailability is influenced by a number of factors, including interactions between various food ingredients, intestinal health, nutritional status and the preparation of the food.



For example: Due to an elevated IgG reactivity, you avoid dairy products, which are a valuable source of calcium. In this case, for example, amaranth, Brazil nuts and mineral water enriched with calcium could present suitable alternatives.

A wide range of different vitamins and minerals exist. The following explains why our body needs certain vitamins as well as bulk and trace elements and in which foods they can be found. You can use the following table as a tool to specifically replace certain foods with others in order to cover your vitamin and mineral requirements when changing your diet (► Tables 14–16).



Vitamin		Primarily required for ...	Contained in ...
Fat-soluble	A	Eyesight, cell growth/differentiation, skin/mucous membranes, fertility/reproduction, immune system	Butter, cheese, entrails, eel, tuna, eggs, soy products enriched with vitamin A
	Carotenes (provitamin A)		Yellow, orange and red varieties of fruit and vegetables (e.g. carrots, sweet potatoes, pumpkin, cantaloupe melon, persimmon, goji berries), green vegetables (e.g. spinach, corn salad, chard, kale)
	D	Absorption of calcium and phosphate, teeth/bones, muscle function, cell growth/differentiation, immune system	Oily fish, chanterelle, morel, dairy and soy products enriched with vitamin D
	E	Cell protection/stability, immune system	Vegetable oils, wheat bran, rye, eel, crayfish, sardines, olives, chicory, spinach, sunflower seeds, almonds, hazelnuts
	K	Blood clotting, bones	Vegetable oils, soybeans, string beans, peas, kiwis, soft fruit, pomegranate, vegetables (esp. chard), pine nuts, cashew nuts, hazelnuts
Water-soluble	B1 (thiamine)	Nervous system, various metabolic responses (e.g. for energy production)	Wholemeal cereals, buckwheat, quinoa, meat and entrails, trout, pike perch, tuna, eel, soybeans, flaxseeds, peas, Jerusalem artichokes, bamboo shoots, asparagus, nuts and seeds
	B2 (riboflavin)	Cell protection, blood formation, various metabolic responses (e.g. for energy production)	Wholemeal cereals, buckwheat, quinoa, amaranth, milk and dairy products, meat and entrails, squid, trout, mackerel, eggs, soybeans, lentils, kale, spinach, asparagus, mushrooms, nuts and seeds
	B3 (niacin)	Various metabolic responses (e.g. for energy production, DNA repair), cell protection/division, immune system	Wholemeal cereals, meat and entrails, fish and shellfish, lentils, peas, parsley, Jerusalem artichokes, kale, potatoes, mushrooms, nuts and seeds
	B5 (pantothenic acids)	Various metabolic responses (e.g. for energy production, cholesterol synthesis), nervous system, skin/mucous membranes	Wheat whole grain products, amaranth, buckwheat, meat and entrails, trout, lobster, tuna, eggs, chicory, cauliflower, broccoli, sweet potato, rocket, mushrooms, peanuts, sunflower seeds, hazelnuts
	B6 (pyridoxine)	Nervous system, blood formation, immune system, protection of blood vessels, various metabolic responses (e.g. in protein metabolism)	Wholemeal cereals, amaranth, buckwheat, meat and entrails, fish, lentils, soybeans, kiwis, bananas, elderberries, vegetables, nuts and seeds
	B7 (biotin)	Cell division/growth, skin/hair, nervous system, various metabolic responses (e.g. glucose synthesis)	Wholemeal cereals, dairy products, meat and entrails, squid, herring, ocean perch, oysters, eggs, legumes, apples, bananas, figs, spinach, chicory, carrots, mushrooms, nuts and seeds
	B9 (folate)	Cell division/growth, embryonic development, blood formation, protection of blood vessels, DNA synthesis	Wholemeal cereals, buckwheat, quinoa, soft cheeses, entrails, mangoes, pomegranate, papayas, legumes, vegetables (esp. spinach, chicory, beetroot), nuts and seeds, table salt enriched with folate
	B12 (cobalamin)	Cell division/growth, blood formation, nervous system, protection of blood vessels, energy metabolism	Milk and dairy products, meat and entrails, fish and seafood, eggs, soy products enriched with vitamin B12
	C	Bones, skin/connective tissue, immune system, nervous system, cell protection, iron absorption, detoxification reactions	Soft fruit, kiwis, litchis, papayas, pineapples, citrus fruits, parsley, bell peppers, green leaf vegetables, zucchini, various types of cabbage (e.g. kale, brussel sprouts), radishes

This table shows selected examples but is not exhaustive. The bioavailability as well as your individual dietary requirements were not considered when preparing the table. Please discuss your dietary changes with your dietitian or practitioner.

14 Vitamins: important functions and possible sources



Mineral	Primarily required for ...	Contained in ...
Bulk elements		
Potassium	Regulation of blood pressure and fluid balance, signal transmission to nerves / muscles, maintenance of important cell functions and metabolic processes	Wholemeal cereals, meat and entrails, fish and shellfish, legumes, bananas, currants, rhubarb, vegetables (esp. spinach), mushrooms, nuts and seeds
Calcium	Teeth/bones, blood clotting, signal transmission in nerves / muscles, cell division / stability, digestion, energy metabolism	Milk and dairy products, sardines, pike perch, squid, crab, legumes, goji berries, rhubarb, black currants, kale, parsley, rocket, Chinese cabbage, chicory, spinach, nuts and seeds, calcium-rich mineral water, rice, oat, soy drink enriched with calcium
Magnesium	Teeth/bones, nervous system, messenger substances, muscle function / heart activity, energy metabolism	Wholemeal cereals, buckwheat, amaranth, quinoa, fish and shellfish, algae, legumes, bananas, soft fruit, papaya, vegetables (esp. chard, spinach, artichokes), nuts and seeds, magnesium-rich mineral water
Sodium	Regulation of blood pressure and fluid balance, signal transmission to nerves / muscles, maintenance of important cell functions and metabolic processes	Table salt, fish, cheese, sausage products, mineral water enriched with sodium
Phosphate	Teeth/bones, various metabolic responses (e.g. for energy production), acid-base balance	Wholemeal cereals, buckwheat, amaranth, quinoa, milk and dairy products, meat and entrails, fish and shellfish, eggs, legumes, raisins, passion fruit, currants, vegetables, nuts and seeds
Trace elements		
Iron	Blood formation / oxygen transport, cell protection, nervous system, immune system, various metabolic responses (e.g. for energy production, protein biosynthesis)	Wholemeal cereals, buckwheat, amaranth, quinoa, meat and entrails, squid, oysters, blue mussels, eggs, legumes, passionfruit, soft fruit, vegetables (esp. kale, Jerusalem artichoke), mushrooms, nuts and seeds
Iodine	Formation of thyroid hormones	Sea fish and shellfish, algae, milk and cheese, corn salad, broccoli, spinach, mushrooms, iodised table salt
Copper	Cell protection, nervous system, messenger substances, immune system, bones / connective tissue, blood formation, iron and energy metabolism	Wholemeal cereals, buckwheat, quinoa, amaranth, meat and entrails, fish and shellfish, legumes, fruit, vegetables (esp. cauliflower, chicory, sweet potato), mushrooms, nuts and seeds
Manganese	Bones / cartilage / connective tissue, cell protection, energy metabolism	Wholemeal cereals, buckwheat, amaranth, entrails, venus clams, trout, pike perch, legumes, pineapple, soft fruit, persimmon, bananas, vegetables (esp. sweet potato, kale, spinach), mushrooms, nuts and seeds
Selenium	Cell protection, regulation of the thyroid hormones, immune system	Wholemeal cereals, buckwheat, amaranth, dairy products, meat and entrails, fish and shellfish, eggs, soybeans, chickpeas, mushrooms, nuts and seeds
Zinc	Skin / hair / nails, cell protection / division, immune system, messenger substances, eyesight, various metabolic responses (e.g. for energy production)	Wholemeal grains, buckwheat, quinoa, amaranth, milk and dairy products, meat and entrails, fish and shellfish, eggs, legumes, blackberries, raspberries, pomegranate, bamboo shoots, zucchini, corn salad, mushrooms, nuts and seeds

This table shows selected examples but is not exhaustive. The bioavailability as well as your individual dietary requirements were not considered when preparing the table. Please discuss your dietary changes with your dietitian or practitioner.

15 Minerals: important functions and possible sources

7. For a healthier future – your myfoodprofile templates

The myfoodprofile dietary and rotation record, including symptom diary

Week —	Breakfast (incl. drinks)	Lunch (incl. drinks)	Dinner (incl. drinks)	Snacks (incl. drinks)	Type of complaints and symptom score *
Day 1					
Day 2					
Day 3					
Day 4					
Day 5					
Day 6					
Day 7					

* Enter the type of complaints and assess the severity of each with a corresponding symptom score: 1 = minor, 2 = moderate, 3 = severe, 4 = very severe.

The myfoodprofile provocation diet record including symptom diary

Week —	Reintroduced food* breakfast	Reintroduced food* lunch	Reintroduced food* dinner	Reintroduced food* snacks	Type of complaints and symptom score**
Day 1					
Day 2					
Day 3					
Day 4					
Day 5					
Day 6					
Day 7					

* Where applicable, also note the quantity and form in which the reintroduced food was consumed, e.g.: (r) = raw, (h) = heated, (f) = fermented.
 ** Enter the type of complaints and assess the severity of each with a corresponding symptom score: 1 = minor, 2 = moderate, 3 = severe, 4 = very severe.

8. FAQs

? I avoided milk and dairy products for an extended period of time before taking the test. Could this have influenced my results in relation to milk and dairy products?

Your test results are influenced by your diet in the weeks leading up to the test. If you have not consumed a food for an extended period of time, this may mean that no or only a very small quantity of

IgG antibodies against this food are detected in your blood sample. It is therefore possible that a food sensitivity to milk and dairy products exists even if only a low reactivity to milk-specific IgG antibodies is detected.



? Can the intake of medications have influenced my results?

Certain medications with an immunosuppressive effect, including (for example) glucocorticoids, reduce the production of all kinds of antibodies, even food-specific IgG antibodies. If you have any questions or require further information on this topic, please consult your dietitian or practitioner.



? My results indicate a very strong reaction to cow's milk and dairy products. Can I consume lactose-free cow's milk products?

Lactose-free dairy products do not contain lactose, so these products can be consumed if you have a lactose intolerance. But this type of intolerance cannot be detected by the **myfoodprofile** test. Rather, your result shows that you have recorded an elevated IgG reaction to the proteins contained in cow's milk, so you should avoid the cow's milk products (including lactose-free products) that you cannot tolerate for the time being.

? My results indicate an elevated IgG reactivity to cow's milk but not to sheep's and goat's milk. Can I still consume sheep's and goat's milk products?

Cow's milk contains many constituents to which your immune system could have reacted with the formation of IgG antibodies. Some of them are also contained in sheep's and goat's milk. These include casein and beta-lactoglobulin. If you have an elevated IgG reactivity to these proteins, we advise also limiting the consumption of sheep's and goat's milk products. However, if you do not record an elevated reaction to casein or beta-lactoglobulin, you may find goat's and sheep's milk products to be a valuable alternative to cow's milk products.

? *I need to take antibiotics during my change of diet. What do I need to pay attention to?*

Antibiotics can destroy useful bacteria in the intestine, which are important for ensuring the optimal functioning of the intestinal barrier. In some circumstances, this can lead to the increased permeability of the intestinal wall, which can impair the success of your change of diet. However, there is the option of performing an accompanying modulation of the gut microbiota to bring the intestinal flora back into balance in order to achieve sustainable success. Please consult your dietitian or practitioner for more information.

? *I was diagnosed with fructose malabsorption in an H₂ breath test. Why does my **myfoodprofile** test not show higher reactivities to fruit and vegetable varieties that are rich in fructose?*

Fructose malabsorption exists if fructose is insufficiently absorbed in the small intestine during the digestion process. In this case, the majority of the fructose reaches the large intestine where it causes the complaints typically associated with this disorder, such as diarrhoea or (painful) bloating. The immune system is not involved in this digestive disorder, meaning that your IgG antibody reactivities towards certain fruit and vegetable varieties may not increase even if you suffer from fructose malabsorption. If you know that you cannot tolerate certain foods, avoid them – irrespective of your **myfoodprofile** test result.



? *How does a blood test for detecting food allergies differ from a blood test to detect food sensitivities?*

A food allergy and a food sensitivity are based on different mechanisms that are mediated by various antibody classes. This means that a classic allergy blood test detects class IgE antibodies (responsible for type I allergies), while a **myfoodprofile** test detects class IgG antibodies (food sensitivity, also known as a type III allergy). As a result, an allergy test and a test for food sensitivities are not comparable against one another. In addition, the **myfoodprofile** test does not provide any indications of possible type I allergies. If you are aware that you suffer from food allergies, it is important that you continue to avoid the triggering food – irrespective of your **myfoodprofile** test result.

? *Is the **myfoodprofile** test also suitable for children?*

No guidelines currently exist that stipulate a minimum age for carrying out an IgG food sensitivity test. However, as the immune system of infants is still developing, we recommend not using the **myfoodprofile** test for children under two years of age.

? Is there a difference between a gluten-free and wheat-free diet?

Although gluten makes up the main protein fraction of wheat, a wheat-free diet is not the same as a gluten-free diet. If you have a sensitivity to wheat, you may also react to other proteins in the wheat against which an increased number of antibodies are formed. As a result, even gluten-free products may in some cases contain problematic wheat proteins. Conversely, products that do not contain wheat can still contain gluten. If you have a gluten sensitivity, you should therefore avoid wheat as well as all other cereals that contain wheat (e.g. spelt, einkorn grain, barley, green spelt, rye, emmer, Khorasan wheat).

? Why do I not react to wheat even though I have an elevated reactivity to gluten?

Gluten and cereals that contain gluten, such as wheat, are tested separately in the **myfoodprofile** test. While the gluten extract used in the test is pure gluten, the cereal extracts used contain gluten as well as other constituents of the relevant grain. This means that the amount of gluten in the cereal extract is lower than in the pure gluten extract, which can lead to different reaction strengths. If you record a stronger reaction to gluten, we advise avoiding **all** cereals that contain gluten, even if your **myfoodprofile** test for wheat and/or other cereals that contain gluten do not indicate elevated reactivities.



? I recorded a strong reaction to gluten. Can I consume foods labelled as "May contain traces of gluten"?

If you do not suffer from coeliac disease you can consume these products. It is unlikely that these will contain enough gluten to trigger a major antibody response.

? My **myfoodprofile results indicate a strong reaction to gluten. Do I have coeliac disease?**

The **myfoodprofile** test detects IgG antibodies against gluten, among other things. Positive results indicate the existence of a food sensitivity. By contrast, in coeliac disease patients not only IgG antibodies against gluten are detectable in the blood, but also other specific antibodies that are not detected by the **myfoodprofile** test. So it cannot be used to diagnose coeliac disease. If you suspect that you suffer from coeliac disease, please consult your doctor.

? What do I need to pay attention to when avoiding certain foods for an extended period?

If you are avoiding certain foods for an extended period, you should make sure that you use other sources to cover your dietary

requirements. For example, milk is rich in calcium. But other foods, such as legumes, nuts and green leaf vegetables also contain significant amounts of calcium. Always make sure that you are aware of the diverse range of available foods and try to maintain a varied diet where possible.

? Why do I react to foods that I have never eaten before?

Some proteins (antigens) in different foods have a very similar structure. This can mean that the antibodies produced by the body detect both the antigens against which they were originally formed as well as antigens from other foods. This type of cross-reaction may cause your test results to indicate strong reactions to foods that you have never eaten before. But you may also have unknowingly previously consumed or taken up the triggering food components. For example food supplements and cosmetic products may contain food antigens that you are sensitive to.



? I have changed my diet. Why are my complaints not improving?

There are a number of reasons why your change in diet has not yet led to any improvements. You may still unknowingly be consuming the triggering food components. Carefully read all the lists of ingredients and also consider the cosmetic products and food supplements in your household. These may contain the relevant food components. An even greater change in your eating habits may be necessary (▶ Chapter 3).

It may also be the case that your complaints are not being triggered by a food sensitivity, but rather by other diseases that can cause similar symptoms. If you suspect that this may be the case, immediately consult your doctor.

? Will I tolerate heated food better?

Adequate heating changes the structure of proteins. This may make a food easier to tolerate. But this is not the case for all foods. Consult your dietitian or practitioner for more information.



? Do I need to avoid vanillin if I record a reaction to vanilla in the *myfoodprofile* test?

The *myfoodprofile* test uses an extract of natural vanilla, which contains vanillin as its main flavouring agent as well as many other constituents of vanilla. The test does not indicate the specific constituent of vanilla for which you recorded an elevated IgG reactivity. Vanillin can be produced synthetically, which may be a suitable alternative to natural vanilla for individuals with a vanilla sensitivity.

? I ate a food that I should actually be avoiding. Do I need to restart the elimination phase from the beginning?

Do not worry if you accidentally consumed a food that you should actually be avoiding. In this case, your symptoms may reappear until you have consistently stuck to your elimination diet for a certain period of time. But you do not need to restart the elimination phase.

? Can I drink alcohol during my change of diet?

Where possible, you should avoid consuming alcohol during your change of diet, as this can have a negative effect on intestinal health.



? I react to codfish – are other species of fish an appropriate alternative for me?

Just like all species of fish, codfish contains the muscle protein (parvalbumin), whose strong cross-reactivity may mean that individuals with a fish sensitivity are also unable to tolerate other species of fish. Make sure that you use your dietary record with symptom diary to document the varieties of fish that do not cause complaints and consider alternatives, such as crustaceans and molluscs, to expand your dietary plan.

? I record very high IgG reactivities to a large number of foods. What should I do?

In this case, it is particularly important that you take a close look at your diet and seek comprehensive advice from your dietitian or practitioner. Find out which nutrients are contained in the foods that you need to eliminate from your dietary plan for a certain period so that you can select appropriate alternative sources. Discover the diverse range of foods on offer and create a nutrition plan. If you still feel overly restricted in your food selection, you should at least avoid all foods that caused a strong reaction and which you previously consumed at least twice a week. It is often the foods that are consumed regularly that cause the most complaints.



