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Dear Patient,

the results of your NutriSMART test are explained on the following pages. This test is used as an aid to recognize potential food intolerances, based on the measurement of food specific IgG4 antibodies that are usually associated with a reactivity towards foods.

On the following pages, you will find a summary of the results, information regarding the test, additional background information, a glossary, general tips, and useful next steps for patients suffering from food intolerances.

**Please note that the NutriSMART test has to be performed by a trained professional, physician, dietician, nutritionist, pharmacist, etc. The results only serve as an aid and can not replace a detailed anamneses; all medical tests require medical consultation. Diet modification should be made only after consulting a qualified healthcare professional.**

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# Table of contents

## Chapter

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1. General information

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# 1. General information

*“Let food be the medicine and medicine be the food” – Hippocrates 460 BC*

As early as 2500 years ago, Hippocrates described a patient with abdominal pain, abdominal bloating, constipation, and colic which is likely the first documented case of food intolerance in medicine. Today, it is thought that every other person will suffer at least once during their lifetime from some sort of food intolerances. Thousands of medical studies have demonstrated the effect of nutrition on health and well-being. Symptoms of food intolerances are quite diverse, and once other diseases are ruled out, they are often associated with:

- Bloating and constipation
- Irritable Bowel Syndrome
- Overweight
- Joint discomfort
- Migraine
- Depression
- Mood and behavioural changes
- Hyperactivity
- Sleeping disorders
- Eczema and itchy skin
- Fatigue and general exhaustion

Frequently, food intolerances are associated with an inappropriate reaction of the immune system to particular foods. While the underlying mechanisms are in many cases still unknown, a chronically irritated bowel can lead to an increased permeability of food components through the bowel mucosa into the bloodstream and can result in an increased response of the immune system towards these foods. Please note that food intolerances are not to be confused with food allergies. While both can be mediated by the immune system, and may have overlapping symptoms, symptoms of food allergies occur fast (within minutes or hours) after food intake while symptoms of food intolerance can occur even days after the causative food has been eaten. The NutriSMART test is an aid for the diagnosis of food intolerances but not food allergies, if you suspect that you are allergic to particular foods, please consult your medical doctor.

With the NutriSMART test, reactivity of a particular class of antibodies (IgG4) to a variety of foods that are usually associated with chronic discomfort is measured (see above). If there is a high reactivity (level 3), your immune system reacts intensively to this food. A high reactivity is not necessarily associated with any symptom such as the ones listed above. Hence, measurement of food specific IgG4 antibodies, combined with a careful analysis of symptoms and medical history, allow healthcare practitioners to indicate foods that are not tolerated by the patient.

If your result shows a positive reaction to a certain food, exchanging it with another, similar food (rotation diet) or eliminating it for a limited period is often sufficient to restore body integrity and to eliminate symptoms. The detailed assessment of the results and individual recommendations are

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shown on the following pages. The individual recommendations are designed to reduce or omit particular foods, in case of a intolerance. You can also find an individually developed nutrition plan, which allows you to exclude or reduce the consumption of IgG4-positive tested foods while maintaining a balanced diet.

**Caution:** Elimination of foods for an extended period may lead to deficiencies of key vital nutrients – always consult with your healthcare practitioner before starting a diet!

## 2. NutriSMART table of results

Patient	Patient ID 1
Date of birth	Weight
Date of test	LOT-Number 7940A065
Report generated by Francoise Naaman	Comments

### Legend

- no or week reaction - no or weak symptoms of food intolerances
- medium reaction - symptoms of food intolerances
- strong reaction - very strong symptom of food intolerances

Gluten / Cereals				
Wheat	●	●	●	●
Rye	●	●	●	●
Barley	●	●	●	●
Oat	●	●	●	●
Gluten	●	●	●	●
Non gluten cereals				
Grain Mix B	●	●	●	●
Grain Mix A	●	●	●	●
Eggs				
Egg White	●	●	●	●
Egg Yellow	●	●	●	●
Milk products				
Goat's Milk	●	●	●	●
Casein	●	●	●	●
Sheep's Milk	●	●	●	●
Cow's milk	●	●	●	●
Fish & Sea food				
Cod	●	●	●	●
Fish Mix	●	●	●	●
Tuna	●	●	●	●
Seafood Mix	●	●	●	●

Meat			
Lamb/Mutton	●	●	●
Meat Mix B	●	●	●
Meat Mix A	●	●	●
Vegetables			
Potato	●	●	●
Veg. Mix A	●	●	●
Veg Mix B	●	●	●
Leek Mix	●	●	●
Tomato	●	●	●
Legumes			
Legume Mix	●	●	●
Soy	●	●	●
Fruits			
Banana	●	●	●
Fruit Mix A	●	●	●
Fruit Mix B	●	●	●
Apple	●	●	●
Pineapple	●	●	●
Kiwi Fruit	●	●	●
Nuts and seeds			
Almond	●	●	●
Cacao	●	●	●
Mustard	●	●	●
Peanut	●	●	●
Hazelnut	●	●	●
Other			
Yeast Mix	●	●	●
Coffee	●	●	●

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## 3. Assessment of your test results

### What was tested?


Numerous IgG4 concentrations have been tested in your blood. There may be an increased IgG4 level without symptoms being present. However, if symptoms are present, then exclusion or rotation of this food often leads to an improvement of your symptoms. Sometimes, the frequently consumed foods (favorite foods) are the ones causing the symptoms. In these cases, i.e. if the foods are consumed frequently, a delayed reaction may not be detectable as symptoms are permanently present.

### What can you expect from your report?

57 common foods that can trigger food intolerances have been tested and results are presented. You will find on a scale of 1 to 3 how strongly your body has reacted to a particular food. Class 1 indicates a minimal to weak reaction, class 2 a moderate reaction and class 3 a strong one. The color diagram allows an immediate assessment of your test results.

Foods of no or low reactivity (level 1) can be consumed. Similarly, foods of level 2 can as well be continuously eaten, in case of absent symptoms or else you should rotate foods with level 2. Please consult your healthcare professional to discuss options for foods that showed a level 3 reactivity.

**Please note:** Major changes in any diet should be carried out only after consulting a nutritional adviser in order to avoid nutritional deficiencies. An increased IgG4 concentration in the blood does not yet mean that you are suffering from food intolerance. A correlation is only likely if symptoms occur simultaneously.

Reaction	No or week reaction	Medium reaction	Strong reaction
 <b>Gluten / Cereals</b>	Wheat   Rye	Barley   Oat	Gluten

- In the group "Gluten / Cereals" there was an above average number of reactions to these foods. The severity of these reactions to some foods was very high. Due to the high number of positive test results and the strength of the reaction a rotation and / or elimination diet is advised. Please examine your test results in detail and consult with your healthcare professional.


Cereals and flours are often obvious or hidden ingredients found in many foods. Besides their occurrence in bread, rolls, pasta, pastries and cereals, these ingredients can be found in convenience products, desserts, seedling mixes, teas, casseroles, batters, potato products, meat products, vegetarian or vegan finished products (seitan), milk products, thickened sauces or soups, spice mixtures, cosmetics, medicines, vinegar, and alcohol.


Therefore, always be cautious of the ingredients of your food and enquire about food ingredients, if in a restaurant.

These cereals can be replaced by each other or by the more unusual alternatives such as chestnut / chestnut flour, soy flour or banana flour, depending on how well they are tolerated.

Gluten is a mixture of several different proteins, present in many grains of cereals. After you add the water, it produces a flexible substance that gives flour its property which is so important during the baking process. Gluten is present in wheat, barley, rye, spelt and kamut wheat, in contrast to the grains amaranth, buckwheat, millet, quinoa, corn, and rice that do not contain gluten. Therefore the latter can be used as a replacement for cereals that contain gluten. In addition, pea flour is also used as a replacement for cereals in gluten-free products. Cereals containing gluten are often used as a binding agent in soups, sauces, ready-made dishes, and as fillers in potato products. Gluten can also be found in meat products and sweets like ice cream or chocolate. Even dairy products such as cheese and fruited yogurt often contain gluten. Other sources of gluten include a mixture of spices, seasonings and sauces, such as tomato ketchup or mustard, and any beer brewed on gluten-containing cereal basis. If the results of your tests show elevated levels of antibodies to cereals containing gluten and to gluten itself, it may be an important clue suggesting intolerance to gluten. To confirm or rule this out, further diagnosis has to be carried out.



Reaction	No or week reaction	Medium reaction	Strong reaction
 <b>Non gluten cereals</b>	<b>Grain Mix B</b> (Corn, Rice)	<b>Grain Mix A</b> (Amaranth, Buckwheat, Goosefoot)	
<p>● In the group "Non gluten cereals" some of foods showed medium reaction, therefore careful analysis of your results is required. The foods that showed medium reactivity might be considered as the ones that lead to intolerance, therefore elimination and / or rotation diet might be beneficial. Please consult with your healthcare professional.</p> <p>Rice is one of the most widely consumed staple food in the world, especially in Asia. The list of rice dishes is almost endless. You might find rice or processed rice (rice flour, puffed rice, starch from rice) in many food products, please see the ingredient list for more information.</p> <p>Amaranth grain is an excellent source of protein and dietary fiber. It contains minerals such as manganese, magnesium, iron, and selenium.</p> <p>Furthermore, phytochemicals can be found in Amaranth, e.g. tannins, oxalates and saponins. Hidden occurrence of amaranth is uncommon.</p> <p>Buckwheat is very common in Europe, but despite its name, it is not related to wheat but to sorrel and rhubarb. When eaten, buckwheat provides a rich source of protein and dietary fiber. It contains several B vitamins and minerals such as manganese, magnesium, and phosphorus.</p> <p>You may find buckwheat in noodles, porridge, pancakes and baked foods, but, seldom, it is found as a hidden ingredient.</p> <p>Maize (corn) and ground maize are used throughout the world and serve as staple food in many areas. Maize and its flour are the main ingredients in many south- and middle-American dishes; corn semolina is used for polenta, cornstarch for thickening various dishes. Maize does not contain as many dietary fiber, protein and minerals as the other non-gluten cereals in this group but it is rich in folate, niacin, thiamin, and B vitamins.</p>			

Reaction	No or week reaction	Medium reaction	Strong reaction
 <b>Eggs</b>		Egg White	Egg Yellow
<p>● In the group "Eggs" there was an above average number of reactions to these foods. The severity of these reactions to some foods was very high. Due to the high number of positive test results and the strength of the reaction a rotation and / or elimination diet is advised. Please examine your test results in detail and consult with your healthcare professional.</p> <p>Egg and egg products are widely used. Hidden occurrence of egg can be</p>			


found in mayonnaise, sauces, pasta and bakery products, glazes, sausages, fruit and vegetable dishes, minced meat, and in most potato preparations. Even in salads, desserts, chocolate, marzipan, cocoa, instant drinks, liquor, wine, dessert wine, and shampoos, egg constituents may occur.

Therefore, pay special attention to the ingredient list and the following terms: ovalbumin, ovo-protein, E322, E1105, and ovomucoid. If in doubt, contact the manufacturer directly.

There are already several alternatives for egg. In well-stocked organic supermarkets, one can find egg substitute powder. One tablespoon soy flour mixed with 3 tablespoons of water is also a good substitute. However, both alternatives should not be used if a soy allergy is present. Another way to substitute eggs in bakery products is for example: ½ teaspoon of baking soda to 100 g of flour, a teaspoon of carob powder for an egg or a mashed banana instead of an egg.

Cross-reactions may occur when consuming poultry meat or eggs derived from other species.

Please note that eggs are used for the production of vaccines. For further information, please consult your doctor.

Reaction	No or week reaction	Medium reaction	Strong reaction
 <b>Milk products</b>	Goat's Milk	Casein   Sheep's Milk	Cow's milk


- In the group "Milk products" there was an above average number of reactions to these foods. The severity of these reactions to some foods was very high. Due to the high number of positive test results and the strength of the reaction a rotation and / or elimination diet is advised. Please examine your test results in detail and consult with your healthcare professional.


Milk is the basis for the production of cheese, yogurt, cream and curd cheese. Rather hidden presence of milk can be found in bread, biscuits, cakes, breaded meats and fish, sauces, soups, beverages, chocolate, caramel, mustard, mayonnaise, dressings, vegetarian spreads, and meats.

Therefore, always check the ingredient list for the following terms: Lactalbumin, lactoglobulin, lactose, whey protein, whey powder, sweet whey, milk powder and milk protein. If you are unclear, please contact the manufacturer. Sometimes there might be cross-reactions to beef.

Try to replace milk by soybean, rice, oats, almond or coconut milk. Of course, soy should be selected as a substitute only, if no soy intolerance is existent. Calcium is added to many of these beverages, as well as to some mineral water, to ensure an adequate calcium intake when omitting milk.


A special feature in NutriSMART test is that we test for casein. If you have responded to casein and milk, you probably do not tolerate any dairy product. If you have only reacted to milk, you probably tolerate curd and cheese better than fresh milk. On the other hand, pure milk, buttermilk, sour milk, yoghurt and kefir contain the entire spectrum of milk proteins including casein. If there is intolerance to casein, this applies to all types of milk and also to lactose-free dairy products.


Reaction	No or week reaction	Medium reaction	Strong reaction
 <b>Fish &amp; Sea food</b>	<b>Cod   Fish Mix   Tuna   Seafood Mix</b> (Salmon, Trout, Octopus, Shrimp, Squid)		
	<ul style="list-style-type: none"> <li>There was no reactivity for any of the foods in the group "Fish &amp; Sea food".</li> </ul> <p>Fish and shellfish may contain, in addition to protein and sodium, potassium, magnesium, calcium and phosphorus, some B vitamins (B6, B12), vitamin D, vitamin A, niacin, iodine, and folic acid. Besides, it has - depending on the species - only a small percentage of fat.</p> <p>Fish and seafood can be found almost everywhere in restaurants and grocery stores, either sold fresh, frozen or as ready meals. Fish proteins can also be found in flavored potato chips.</p> <p>Specific alternatives to fish can be found in stores carrying dedicated vegetarian or vegan foods, but here the food components should be checked for other ingredients.</p>		

Reaction	No or week reaction	Medium reaction	Strong reaction
 <b>Meat</b>	<b>Lamb/Mutton   Meat Mix B</b> (Chicken, Turkey)		
	<b>Meat Mix A</b> (Beef, Pork)		
	<ul style="list-style-type: none"> <li>In the group "Meat" some of foods showed medium reaction, therefore careful analysis of your results is required. The foods that showed medium reactivity might be considered as the ones that lead to intolerance, therefore elimination and / or rotation diet might be beneficial. Please consult with your healthcare professional.</li> </ul> <p>Meat is a food rich in protein and a source of iron, zinc, selenium, a large number of vitamins and other minerals. The nutrients from meat have a very good bioavailability and they promote the absorption of phytonutrients in the body.</p> <p>Please note especially the hidden presence of meat in finished products, sauces, tinned food, ready meals and soup broths. Gelatin is also made from animal proteins and is found in desserts, glazes, and dairy products. Even in</p>		


medicines and vaccines, components of meat may be included.

Alternatives to meat are available in stores carrying dedicated vegetarian or vegan foods, but here the food components should be checked for other ingredients. A short vegetarian or meat-reduced diet can nowadays be implemented very well without restrictions, provided that other foods with key vital nutrients are eaten.

Reaction	No or week reaction	Medium reaction	Strong reaction
 <b>Vegetables</b>	Potato   Veg. Mix A   Tomato Veg Mix B   Leek Mix (Carrot, Celery, Broccoli, Cabbage, Garlic, Leek, Onion)		
<p>● <i>In the group "Vegetables" some of foods showed medium reaction, therefore careful analysis of your results is required. The foods that showed medium reactivity might be considered as the ones that lead to intolerance, therefore elimination and / or rotation diet might be beneficial. Please consult with your healthcare professional.</i></p> <p><i>Vegetables contain many vitamins, minerals, trace elements, and especially fiber. Additionally, vegetables contain phytochemicals that may help to prevent cancer and act as antioxidants. Vegetables are low in calories that make them suitable foods for weight control. The versatility of vegetables allows for a well diversified menu.</i></p> <p><i>The variety and variability of vegetable foods complicate an elimination diet and require a lot of attention in the diet. Thus, these foods can be found in appetizers, entrees, desserts of all variations, as well as in juices and dietary supplements. Please note that the different types of starch are also made from different types of vegetables.</i></p>			

Reaction	No or week reaction	Medium reaction	Strong reaction
 <b>Legumes</b>		Legume Mix (Green Bean, Pea)	Soy
<p>● In the group "Legumes" there was an above average number of reactions to these foods. The severity of these reactions to some foods was very high. Due to the high number of positive test results and the strength of the reaction a rotation and / or elimination diet is advised. Please examine your test results in detail and consult with your healthcare professional.</p> <p>An often hidden food from this group is soy. Primarily, soy and soybeans are used as soybean meal, soybean oil, soy milk and soy sauce, and one can find soy as well in bakery products, cereals, desserts, sweets, margarine and ready meals.</p> <p>Also, consider the hidden presence of soy in vegetable broth, spice mixes,</p>			

Asian dishes, bakery and confectionery, chocolate, oils, dressings, meat products, snacks, baby and diet products, and cosmetics. Pay attention to the information on the list of ingredients such as soy, soy protein, soybean, glycine, binders, thickeners, vegetable fat/protein, soy lecithin, lecithin, E322 or meat substitute. Generally, soy must be declared on food packaging if the food contains it. Therefore, always read the ingredient lists carefully.


Reaction	No or week reaction	Medium reaction	Strong reaction
 <b>Fruits</b>	Banana   Fruit Mix A   Fruit Mix B (Lemon, Orange, Grape, Peach, Strawberry)	Apple   Pineapple   Kiwi Fruit	

- In the group "Fruits" some of foods showed medium reaction, therefore careful analysis of your results is required. The foods that showed medium reactivity might be considered as the ones that lead to intolerance, therefore elimination and / or rotation diet might be beneficial. Please consult with your healthcare professional.

Fruits are rich in water-soluble vitamins, especially vitamin C as well as vitamin A and folic acid, many minerals, iron, fiber and phytochemicals which have a protective function against cancer, inflammation and hypertension to name a few.

Fresh fruits or processed fruits can be frequently found in cold and warm meals: in appetizers, salads, entrees and of course desserts. Some fruits are processed to dried fruits and flour so that they can be found in diet food or as a bread additive, in baked goods, dairy products, confectionery, sauces, ice cream, as egg substitutes and of course in jams and juices.

A careful check of the food ingredients indicates clearly which fruits were processed for that product which helps in the implementation of an elimination or rotation diet.

Reaction	No or week reaction	Medium reaction	Strong reaction
 <b>Nuts and seeds</b>	Almond   Cacao   Mustard	Peanut   Hazelnut	

- In the group "Nuts and seeds" some of foods showed medium reaction, therefore careful analysis of your results is required. The foods that showed medium reactivity might be considered as the ones that lead to intolerance, therefore elimination and / or rotation diet might be beneficial. Please consult with your healthcare professional.

Nuts and seeds contain many vitamins (vitamin E, vitamin B), omega-3 fatty acids, minerals as well as many trace elements. Due to these nutrients, nuts and oilseeds have a protective effect for cardiovascular diseases and a positive effect on brain health and longevity.

*As some nuts such as peanuts are common triggers of classical allergies, they must always be declared in food.*

*Nuts are found in many foods such as salads, snacks, cereals, cakes, biscuits, candy, chocolate, pudding, baked goods, prepared dishes, Asian dishes, spices, and spreads. But even in milkshakes, breaded meat or fish, egg salads, chocolate bars, potato preparations, soups, and meat salad, nuts may be included. Finally, care should be taken regarding the presence of nuts in alcoholic beverages, cosmetic products, lotions, and tanning solutions to name a few. Therefore, please always check the list of ingredients.*

## Reaction



### Other

## No or weak reaction   Medium reaction   Strong reaction

### Yeast Mix | Coffee

(Baker's Yeast, Brewer's Yeast)

- *In the group "Other" there was an above average number of responses to this foods. Though these effects were not very high on average. By the high number of positive test results a rotational diet might be necessary. Please check your test results in detail and speak with your healthcare professional.*

*Coffee is usually consumed as a hot or cold beverage made from roasted and ground coffee beans. Roasting and grinding degrees vary depending on the mode of brewing. Coffee contains the vitamin niacin and caffeine, as well as polysaccharides, proteins, chlorogenic acid, and various caramelization and condensation products that are formed during the roasting process and they determine the flavor, the color and the aroma. Besides its use in drinks and beverages, coffee is used as a flavor in some dishes and foods.*

*Saccharomyces cerevisiae is a yeast used for baking, brewing beer and also for production of wine. During the fermentation process, glucose, fructose and sucrose are metabolized and ethanol and carbon dioxide are produced.*

*Yeast may be found in several baking goods, as well as in beer and other alcoholic beverages.*

## 4. Individual recommendations

The basic idea of a rotation diet is to have foods of a particular food family once every 4 or 7 days in order to restore bowel integrity. It is recommended to carry on a rotation diet for initially 3 months to give your gut time to recover. Then, you can slowly try to reintroduce the food into your daily menu. Some general tips and advices can be found below.

For the rotation diet, different foods of the same food group (e.g. vegetables or grains) are listed for 4 consecutive days, so that a one-sided nutrition is avoided. Following the dietary table in this report will make it easy to adhere to the diet, depending on your preferences and taste, you can choose every day among the foods you are not sensitized to. During the first days of the diet, an increase of the symptoms may occur. You will possibly also feel hungry, even though you are eating enough. When these "abstinence symptoms" disappear after a few days, a remarkable improvement in your health will quickly occur; the change of diet will take effect. Now, you must give your intestine sufficient time for "regeneration" and not stress it again.

After 3-6 months, you will be able to gradually re-introduce foods you have avoided before. If you continue with your rotation diet and eat a variety of foods, you will be making an important contribution to your intestinal health.

Additional notes:

- Drink coffee, black tea or alcohol only in moderate amounts.
- Avoid salt, in case you need it, use a natural sea salt. Fresh herbs are also a good alternative.
- Too much food during a meal stresses our digestive system.
- Ensure that you drink plenty of liquids (drink a minimum of 2 liters of water per day, mineral water without gas, or weakly brewed herbal tea - coffee, black tea, juices and alcohol do not count!).
- Ingredients should always be bought fresh and should be directly prepared. Avoid convenience food!
- Avoid sauces and batters as much as possible.
- Minimize the consumption of hydrogenated fat spreads (margarine).

### Reintroduction of food

Following the recommendation of your healthcare supervisor and/or your personal diet, the natural balance of the digestive tract should be restored and you will tolerate the foods again.

Here are some tips on how you can slowly broaden your menu again:

- In general, you should start slowly. Reintroduce only one food at a time into your menu and try to let at least one week pass before introducing the next "new" food.

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- The best way is to start with the foods to which you have reacted least severely.
  - Give your body a period of 4 days to get used to the newly introduced food. Observe how well you tolerate it. If the symptoms do not recur, this food can be fully reintroduced into your nutritional plan. In some cases, the intolerances may recur at a later stage or new intolerances may occur additionally. Your personal consultant will advise you regarding further actions you may take to speed up the recovery and regeneration of your intestinal mucosa.

In case of new symptoms or as a preventative measure, it might be advisable to repeat the test. If you have any questions, please consult your healthcare professional first.

**Note:** If symptoms occur after consuming milk products or products containing gluten, you should also consider a lactose or gluten intolerance. In addition, fructose malabsorption and histamine intolerance should not be disregarded if symptoms occur. It might be necessary to perform further tests in order to diagnose these conditions. Please discuss this with your healthcare professional.



## 4-Days-Rotary diet plan

Group	1.Day	2.Day	3.Day	4.Day
Gluten / Cereals				Wheat, Rye, Barley, Oat, Gluten
Non gluten cereals	Buckwheat	Corn, Rice	Amaranth	Goosefoot
Eggs	Egg White, Egg Yellow			
Milk products	Goat's Milk, Sheep's Milk			Casein, Cow's milk
Fish & Sea food		Shrimp, Squid, Octopus	Cod, Tuna, Salmon, Trout	
Meat	Chicken, Turkey, Lamb/Mutton	Pork		Beef
Vegetables	Carrot, Celery		Cabbage, Broccoli	Potato, Tomato, Garlic, Onion, Leek
Legumes	Soy, Pea, Green Bean			
Fruits	Banana, Pineapple	Lemon, Orange, Orange, Grape	Apple, Kiwi Fruit	Peach
Nuts and seeds	Peanut	Hazelnut	Mustard	Almond, Cacao
Other		Baker's Yeast, Brewer's Yeast		Coffee

- no or week reaction - no or weak symptoms of food intolerances
- medium reaction - symptoms of food intolerances
- strong reaction - very strong symptom of food intolerances

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## 5. Glossary

### **Allergens:**

Antigens that can cause a hypersensitization reaction mediated by the immune system. The following are examples of allergens: animal hair, pollen from grasses, herbs or trees, fungal spores, and food components.

### **Antigen:**

Substance that is recognized by the immune system as "foreign". Specific antibodies can be formed against antigens. Antigens must exceed a certain size in order to be recognized by the immune system. Fully digested food, which is broken down into individual elements or short chains is therefore no longer recognized, although larger fragments, such as protein molecules (proteins), particularly stable structures can be recognized.

### **Antibodies:**

Protein molecules that are created by defense cells of the immune system in order to recognize, mark and eliminate something which is "foreign" compared with the endogenous components of your body.

### **Bowel cleansing:**

Everything consumed through the mouth is channeled through the intestine, the most important organ involved in the digestion. All components that can be utilized by the body are cleaved here and absorbed via the intestinal mucosa. All that remains cannot be used and is excreted again, although small residues can remain in the intestine and can accumulate in or on the mucosal layer or the intestinal villi. Intestinal cleansing has the objective of largely removing these residues, thus increasing the natural function and regeneration of the intestinal mucosa. This can be done by using a type of intensive rinsing which can be achieved either through the consumption of certain substances which draw water into the bowel or by the consumption of substances which specifically bind residual components so that these can again be excreted.

### **Immune system:**

All mechanisms which the body uses in order to recognize, mark, deactivate, excrete, and break down foreign organisms or "foreign structures" which could invade or have already invaded the body. A distinction is made between the innate and the acquired immune system. The latter produces, amongst others, the immunoglobulins with which "exogenous structures" are specifically recognized.

### **Rotation diet:**

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During a rotation diet, selected foods are consumed in intervals of four or seven days. This interval is sufficient for a complete passage of the nutrient through the gastrointestinal tract and the subsequent excretion. More frequent consumption leads to a nutrient being permanently present in the bowel. As the immune system continually reacts to food components in order to prevent them from invading the body, an unbalanced diet which often contains the same foods, may unduly stress the immune system. The rotation diet counteracts this mechanism and can help a stressed or damaged system to regenerate more quickly. This "relief" applies especially to foods which particularly irritate the intestine. At the same time, the rotation diet is a particularly varied and therefore healthy diet. In many cases, the rotation diet also leads to a normalization of body weight in people who are overweight or underweight.

**Tolerance:**

We speak of "tolerance" of an antigen by the immune system if it is well accepted and not fought. Certain cells of the immune system, the T-helper cells, are responsible for this control. Via messenger substances, these cells are able to induce or inhibit other cells to produce antibodies. Apart from the genetic disposition in regards to tolerance or non-tolerance, it is also important how, with which continuity and with which concentration the antigen comes into contact with the immune system. For this mechanism, the intestinal health plays a crucial role. If there is a disturbance of the intestinal barrier, the activation of the immune system is more often observed.

**Type I reaction (immediate type):**

In the case of a type I allergy, reactions are mainly triggered directly on potential invasion sites into the body with the objective of repelling or neutralizing the allergen. This may be a local inflammation, swelling, cramps, cough, retch or sneeze, or the increased discharge of body fluid (flushing out). The most extreme reaction is an anaphylactic shock (circulatory collapse, loss of consciousness).

**Delayed reaction (intolerance):**

Beside immediate reactions to foods (classical type I allergy), there are delayed forms where food must first reach the intestine to be metabolized before a reaction occurs. This mechanism is accompanied by an already disturbed intestinal mucosa which permits the increased passage of food components which have not been completely digested. These components can then be transported via the blood circulation and can cause a reaction of the immune system. A good correlation between IgG4 antibodies and exclusion diet can be observed in practice.