



Cat-Microbiome

Sample Report

Health begins with us.



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Microbial Composition

Diversity of the Microbiome (Shannon Index)



Balance of the Microbiome (Dysbiosis Index)



Nutrition

Fibre-rich diet



Health

Obesity



Intestinal Problems



SAMPLE REPORT

What do bacteria do in my cat's intestine?

The gut microbiome plays an important role in the health and well-being of cats. Similar to humans, the gut microbiome of cats consists of a variety of bacteria, viruses, fungi, and other microorganisms that colonise the intestine ^{[1][2]}.

Although humans and animals are constantly surrounded by microorganisms, they are often only noticed when obvious symptoms occur. While many of these microorganisms in the gut perform a variety of important functions, including digestion support, some bacteria can affect the health of the cat ^[2].

A healthy gut microbiome in cats is characterised by a high diversity, which means that many different types of microorganisms are present. A balanced diet rich in fibre promotes the diversity and balance of the gut microbiome. An unbalanced diet or the use of antibiotics can lead to an imbalance in the gut microbiome. A disrupted gut microbiome in cats can be associated with various health problems, including digestive disorders, allergies, inflammatory bowel disease, and obesity ^{[3][4]}.

Research on the gut microbiome in cats is still in its early stages and is less studied compared to humans, but there is increasing knowledge about how a healthy microbiome affects the health and well-being of cats. Individual differences in the gut microbiome can cause cats to respond differently to certain dietary forms or be more susceptible to various diseases ^[4]. In the following, we will provide insights into the composition of your cat's microbiome and possible health impairments that may arise from a disrupted microbiome. For this, over 1800 groups of bacteria in your cat's microbiome are being analysed.



MICROBIAL COMPOSITION

Diversity of the gut microbiome

The diversity of the microbiome is an important indicator, as a microbiome with higher diversity tends to be more stable than one with low bacterial diversity. Therefore, increased diversity is often associated with a healthy microbiome. This is because a greater variety of bacteria can help maintain the balance of the microbiome and limit the spread of harmful bacteria ^{[3][4]}.

A stable microbiome is capable of recovering and restoring itself from disturbances. However, when the microbiome is disrupted, for example, by changes in diet or the use of various medications such as antibiotics, it can lose its stability and become more susceptible to diseases.

The Shannon index is used to assess diversity, providing information about the bacterial diversity in your cat's gut. A low value indicates reduced microbiome diversity and room for pathogenic bacteria. High values indicate greater bacterial diversity and, consequently, a good balance of the microbiome.

The Result:



Your cat's Shannon index is 4.1, which falls into a range classified as high, indicating higher microbiome diversity. This means that the microbiome is stable and positively supports the immune system.

MICROBIAL COMPOSITION

Dysbiosis of the gut microbiome

The dysbiosis index is another way to assess the balance of the microbiome. Dysbiosis in the gut refers to an imbalanced composition of bacterial groups in the gut^{[3][4]}. The microbiome is compared to the average composition of the microbiome of healthy cats.

A low value in the dysbiosis index (green range) indicates a balanced microbiome, while high values (red range) are associated with dysbiosis.

The Result:



The dysbiosis index is 7, which falls into a range classified as slightly elevated, indicating a minor disruption of the microbiome balance.

How well does my cat's diet promote a balanced gut microbiome?

Fibre in plant-based foods play an important role in the health of the gut microbiome and should not be neglected in the cat's diet. These indigestible components of food serve as nourishment for the beneficial bacteria in the gut and promote their growth and activity. Sufficient fibre intake supports a healthy gut microbiome. In a fibre-rich diet, among others, the Bifidobacteria in the cat's gut are increased ⁽¹⁾⁽⁵⁾.

The Result:



Compared to healthy reference cats, your cat has slightly elevated levels of Bifidobacteria in its microbiome. This means that your cat regularly consumes fibre-rich foods in appropriate amounts, thereby positively supporting the microbiome.



Fur or fat. Is my cat overweight?

Obesity in cats is a serious problem that is becoming increasingly common. It can lead to a variety of health consequences. In addition to the obvious issues such as increased pressure on the joints and an increased risk of diabetes and cardiovascular diseases, obesity can also affect the cat's gut microbiome. In overweight cats, the balance in the gut microbiome can be altered, leading to inflammation and disrupted digestion. Some bacteria, including *Olsenella provencensis* and *Campylobacter upsaliensis*, are more prevalent in the gut of overweight cats ^[6].

The Result:



The gut microbiome of your cat shows slightly elevated levels of bacteria associated with obesity compared to healthy reference cats. Therefore, the microbiome suggests that your cat has a mild overweight condition.



What influence does the microbiome have on intestinal problems in my cat?

Diarrheal diseases are not uncommon in cats and can have various causes. A common cause of diarrhoea in cats is a sudden change in diet, such as consuming unsuitable food. Additionally, changes in the gut microbiome due to an increase in certain groups of bacteria can result in altered bowel movements. Furthermore, diarrhoea itself promotes disruptions in the gut microbiome by throwing off the balance of microorganisms in the intestine. This, in turn, can lead to further digestive problems and reduced nutrient absorption. While some bacteria such as *Faecalibacterium* and *Turicibacter* are less present in the intestines of cats with diarrhoea, *Streptococcus* bacteria are more commonly found in the intestines of cats with diarrhoea^[7].

The Result:



Compared to healthy reference cats, comparable amounts of bacteria associated with diarrhoea have been found in the microbiome of your cat. The result does not indicate a higher susceptibility to intestinal problems.

RECOMMENDATIONS

Nutrition

A balanced diet is of great importance for promoting the health and well-being of cats. High-quality cat food contains a balanced mixture of meat, poultry, or fish to meet the cat's protein requirements and ensure the intake of essential nutrients. Some foods that are safe for humans, such as onions and garlic, can be toxic to cats. Therefore, feeding them table scraps or human food should be avoided.

Raw meat chunks can be an important part of the diet as they provide essential nutrients such as high-quality proteins, vitamins, and minerals. However, it is important to take some precautions when feeding raw meat. The meat should be fresh, of good quality, and suitable for human consumption to minimise the risk of pathogens. Additionally, certain types of meat that can be harmful to cats, such as raw pork or excessive raw fish, should be avoided.

Overall, no clear advantage of raw meat over cooked meat has been demonstrated. When feeding raw meat, the risk of disease-causing bacteria should be considered and weighed against the potential benefits^[8].

Obesity

A healthy and balanced diet is crucial for supporting the cat's gut microbiome and preventing obesity. Overfeeding with uncontrolled portion sizes or excessive treats and snacks should be avoided to prevent overweight. Healthy snacks for cats should not contain grains, sugar, or additives. In addition to nutrition, regular physical activities are important to prevent or combat obesity in cats. Toys and interactive play sessions can help provide the cat with more exercise and burn calories. With the advice of a veterinarian, the administration of probiotics can support weight reduction by restoring a diverse and well-balanced microbiome^[6]. Probiotics are live bacteria that promote gut health by supporting the balance of microorganisms in the intestine.



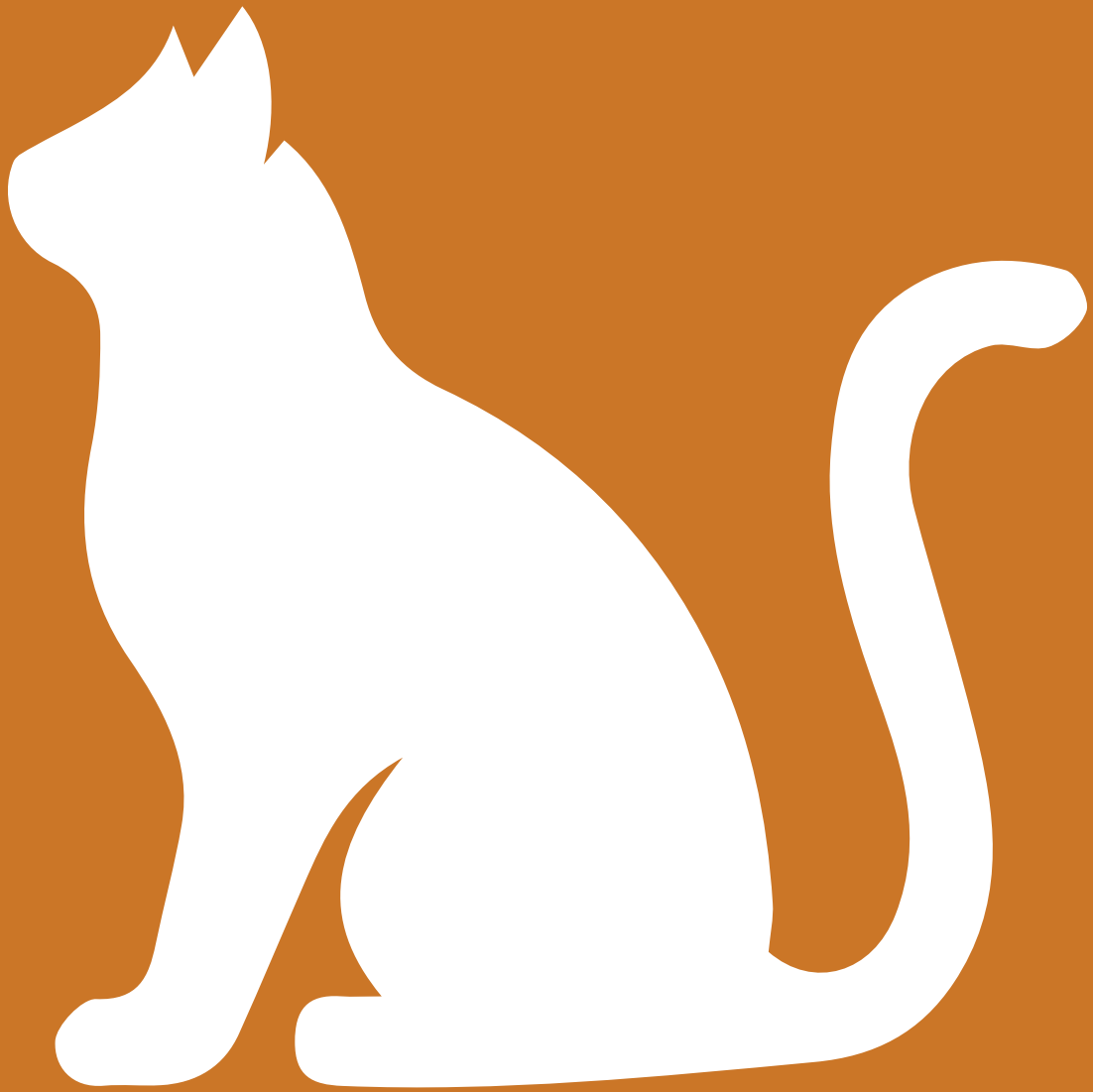
What should I do for intestinal problems in my cat?

For diarrhoea, a temporary switch to a easily digestible diet, such as special food for sensitive stomachs or chicken and rice, should be made. Spicy or fatty foods should be avoided. Additionally, ensuring adequate water intake for your cat is important to prevent dehydration. The use of wet food can support hydration as it provides additional moisture. Your cat should rest in a calm environment as stress can worsen diarrhoea ^{[9][10]}.

In addition to an easily digestible diet and adequate water intake, probiotics can help support the gut microbiome of your cat. The growth or disappearance of specific bacterial species during diarrhoea is promoted by reduced diversity and an imbalanced microbiome, and probiotics can help restore this balance ^[10].

If diarrhoea persists, is severe, or is accompanied by other symptoms, be sure to consult a veterinarian. There may be an underlying condition that requires specific treatment.





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