

MICROBIOLOGICAL REPORT

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Summary in English:

The document presents the results of a microbiological DNA analysis of organic apple cider vinegar, which shows a high species diversity and health-promoting bacteria.

Microbiological Analysis

The analysis was conducted using NGS sequencing (16S rDNA) and captured 536 different bacterial species, exceeding the expected norm of 250 species.

- The sample shows a high diversity in the distribution of bacteria, without dominance of a few species, which indicates a healthy microbiome.
- Dominant bacteria such as Bacteroides (12.18%), Faecalibacterium (11.82%), and Roseburia (3.31%) are beneficial for the health of the gastrointestinal tract.

Health-Promoting Properties

- The identified bacteria support the intestinal barrier, regulate the immune system, and may have positive effects on conditions such as irritable bowel syndrome, Crohn's disease, and type 2 diabetes.

Butyric acid producers are particularly important because butyric acid plays a central role in the body's energy supply and has anti-inflammatory properties.

- A deficiency in butyric acid can lead to a variety of health problems, while increasing it to normal levels can improve the quality of life.

Bacterial Composition In Apple Cider Vinegar

- Only small amounts of acetic acid bacteria (Acetobacter) and lactic acid bacteria (Lactococcus) have been detected in organic apple cider vinegar, which is atypical for acetic acid products.

Instead, apple cider vinegar shows a high biodiversity with 536 species, which indicates a healthy microbial composition.

General Properties of Apple Cider Vinegar

Apple cider vinegar is considered healthy because it stimulates digestion, stabilizes blood sugar levels, and promotes a feeling of fullness.

- It contains vitamins, minerals, and antioxidants that strengthen the immune system and have antibacterial effects.
- Especially in natural cloudy organic apple cider vinegar, valuable substances such as the "mother of vinegar" and polyphenols are contained, which have a positive effect on the intestines and metabolism.

Protection Of The Intestinal Mucosa

The bacterial mix in organic apple cider vinegar can help regulate the intestinal mucosa and alleviate complaints such as constipation and flatulence.

- Important bacteria such as *Akkermansia muciphila* and *Faecalibacterium prausnitzii* are present in the sample and support the health of the microbiome.

Benefits Of Organic Apple Cider Vinegar

- A balanced microbiome is crucial for health, and Organic Apple Cider Vinegar can help restore a disrupted microbiome to balance.
- Even small changes in the microbiome can have significant effects on health, and initial adjustments can be expected after about four weeks.

Microbiological Composition In Comparison

- The composition of apple cider vinegar is similar to the human microbiome, with Firmicutes and Bacteroidetes responsible for breaking down carbohydrates and fats.
- Excessive amounts of Proteobacteria may indicate an imbalance associated with an increased susceptibility to disease.
- Pathogenic bacteria have not been detected in apple cider vinegar, which is a positive finding.

Conclusion

The analysis shows that organic apple cider vinegar contains a high diversity of species and health-promoting bacteria that can contribute to improved gut health.

- The results support the use of organic apple cider vinegar as a health-promoting food in folk medicine.