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Poster 149

Microbiological composition of kefir

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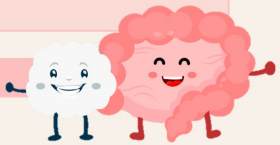
Introduction:

Kefir is an acidic fermented milk, different from other fermented products due to the particular characteristic of its initial culture: the kefir grains. These contain a relatively stable and specific microbiota enclosed in a matrix of polysaccharides and proteins, where various bacterial species of the lactic acid and acetic acid group and yeasts cohabit, which have probiotic potential. [1–4]

Objective:

With this work we intend to understand the microbiological composition of kefir and its beneficial properties as a probiotic.



Results

Fig. 1: Flowchart of kefir properties and symbiotic relationship in probiotic cultures. [1, 2, 5]

- Antimicrobial, antitumor, anti-inflammatory, and immunomodulatory activity;
- Antioxidant effects;
- Improved lactose digestion;
- Increased intestinal bacterial flora.

The metabolites produced by microorganisms such as lactic acid, antibiotics and others with bactericidal action inhibit the development of degrading and pathogenic microorganism in kefir (*Salmonella, Escherichia coli* and *Streptococcus pyrogenes*). [2]

Table 1: Examples of microorganisms and their produced metabolites. [6]

Microorganisms	Produced Metabolites
Leuconostoc, Lactobacilli, *Streptococcus*, Lactococci, *Enterobacter*, *Acinetobacter*, *Enterococcus*, and *Pseudomonas* spp.	Lactic acid
Kluyveromyces, *Candida*, *Torulopsis*, *Saccharomyces*, *Rhodotorula* and Zygosaccharomyces	Acetic acid (produced by acetic acid bacteria). Peptides, amino acids, vitamins, ethanol and CO_2 produced by yeasts
Lactobacillus kefiranofaciens	Kefiran

Main polysaccharide present in kefir grains

Conclusion:

Thus, kefir presents to its consumers a wide variety of beneficial microorganisms and bioactive compounds, being considered a product with great potential as a functional food. [3]

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