

TITLE: MICROBIOTA ANALISYS OF KEFIR GRAINS SAMPLES COLLECTED IN THE WEST ZONE OF RIO DE JANEIRO CITY.

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ABSTRACT:

Currently, there has been great demand for natural products that contributes to human's well-being, which must be from organic origin, without genetic modification or pesticides treatment, being easily degraded by the environment. Kefir is a probiotic dairy drink produced by the fermentation of milk by microorganisms present on its grains. Such microorganisms form a complex microbiota composed of yeasts and bacteria that bring benefits to the individual, among them could be highlighted imunomodulators and pro-digestive effects, beyond the activation of immune system cells, like macrophages. This study aims to analyze the microbial community of Kefir samples collected in the West Zone of Rio de Janeiro city in order to compare with those from samples already described in other Brazil regions and other countries. Literature data indicate some variation in the composition of this microbiota with isolation of *Streptococcus thermophilus*, a fermenting species of lactic acid bacteria, different from other species normally found, such as *Lactobacillus fermentum* and *Leuconostoc mesenteroides*. It is believed that the substrate where Kefir grains are cultivated can interfere in the microbiota composition associated with them and, consequently, in the functional capacity of the present microorganisms. Thus, evaluate the composition of this microbial community is relevant, since it is directly associated with the quality of this food. It is noteworthy that the routine cultivation method of Kefir is handmade and the way each individual cultivates it or the substrates quality used are different. Thus, culture-dependent techniques were used to analyze the samples of Kefir, using APT agar to heterofermentative *Lactobacilli* sp. and DeMan, Rugosa e Sharpe agar (MRS agar) to the growing of *Lactobacilli* sp. and *Leuconostoc* sp.. Preliminary results with APT agar indicate the presence of *Leuconostoc* sp., a bacteria characteristic of this food. Microorganisms isolation continues. The isolated ones will be analyzed by VITEK® 2 Compact to bacterial species identification, where it is expected to find: *Lactobacillus fermentum* and *Leuconostoc mesenteroides*, as well as others that can be related to samples origin. The samples microbioma will be further analyzed through Illumina Miseq®.

Keywords: Kefir grains, probiotic, food microbiology.

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