Universitat Autònoma de Barcelona

KOMBUCHA: COMPOSITION, FERMENTATION AND HEALTH EFFECTS

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INTRODUCTION AND OBJECTIVES

Kombucha is a fermented beverage obtained from tea (*Camellia sinensis*) with sugar, with an alcoholic content below 1,2%. The peculiarities of this beverage are the microbial culture that it contains, which acts in synergy, and also the supposed beneficial effects for health that its consumption entails.

Objectives:

- to describe this beverage
- to research the fermentation that takes place during manufacture
- to find out the impact on the consumers' health

Figure 1. Symbiotic Culture of Bacteria and Yeast (SCOBY).
From: https://cienciaybiologia.com/te-kombucha-peligroso-beneficioso/?cn-reloaded=1

Methods to stop the fermentation:

- Refrigeration
- Pasteurization
- Sugar depletion

Health benefits:

- Antioxidant properties
- ↓ blood lipid and cholesterol concentration
- ↓ risk of obesity, cardiovascular diseases, diabetes and renal failure
- Inhibition of cancer development and progression

The studies have been done mainly in animals, or *in vitro* in animal or human cell cultures, there is still no scientific evidence to support these benefits for human health.

Table 1. Biological composition of kombucha

Acetic Acid Bacteria (AAB)	*Komagataeibacter* spp., *Gluconobacter* spp., *Acetobacter* spp
Lactic Acid Bacteria (LAB)	*Lactobacillus* spp, *Lactococcus* spp
Yeasts	*Brettanomyces* spp, *Pichia* spp, *Zygosaccharomyces* spp, *Saccharomyces* spp

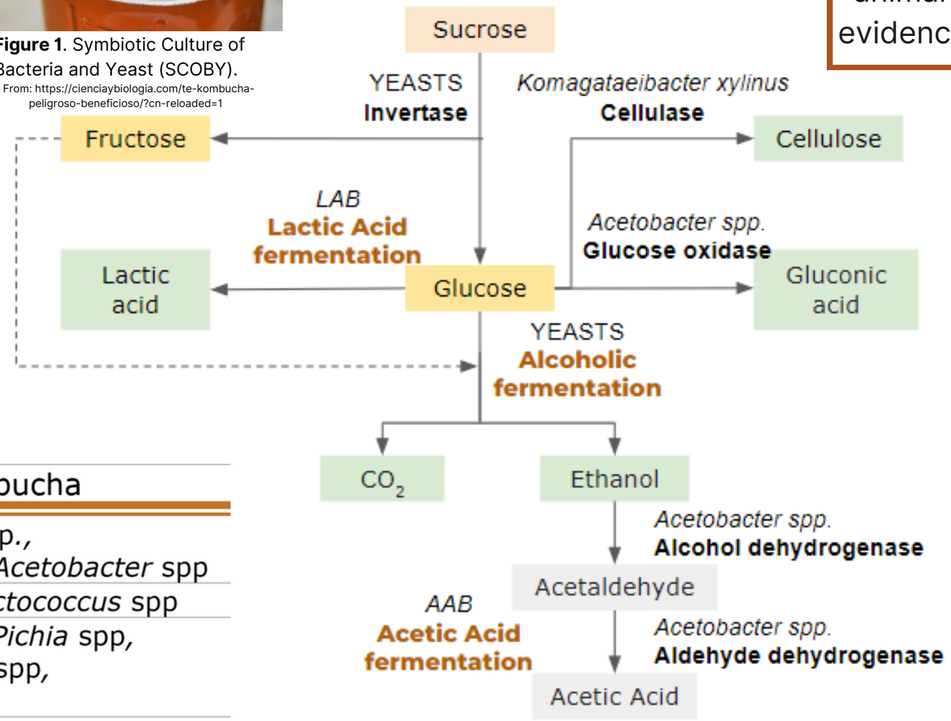

Figure 2. Diagram of the fermentation

CONCLUSIONS

- Kombucha is a beverage with a composition of great complexity, despite the simplicity of its raw materials and production process.
- Although no official claims can be made regarding its health effects, kombucha can be considered a high-value food in a healthy diet.
- Kombucha is a refreshing, low-calorie drink that can become a good substitute for soft drinks.