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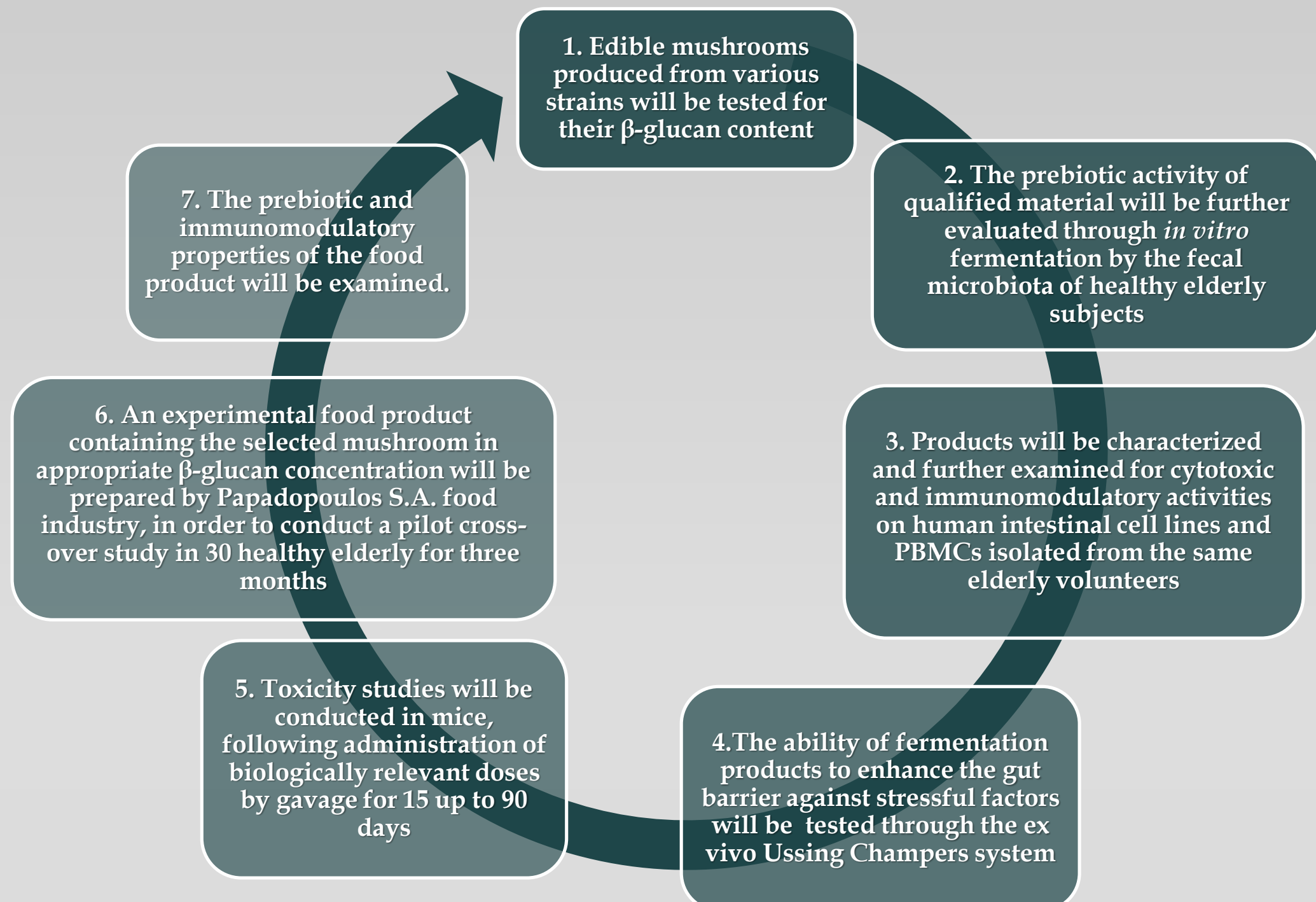
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INTRODUCTION

B-glucans are polysaccharides in the cell wall of bacteria, fungi and cereals such as barley and oat. Fungal β -glucans are considered as biological response modulators and recently their interaction with the human **Gut Microbiota (GM)** is the object of intensive research. This project aims at characterizing the health promoting effects of edible mushrooms rich in β -glucans, in order to develop novel functional foods for the elderly.

METHODOLOGY



RESULTS

Results are expected to contribute at:

- ✓ Assessing the alterations of the faecal microbial populations following fermentation and hence production of the main microbial metabolites
- ✓ Determining the immunomodulatory effect of fermentation supernatants on PBMCs
- ✓ Selecting of the most promising fungal strain to evaluate its influence on the gut barrier function
- ✓ Assessing the impact of the experimental food consumption on the GM of mice and toxicological evaluation
- ✓ Determining the potential effects of the experimental food on the GM composition and function as well as the immune health of the elderly volunteers (pilot cross-over study)

DISCUSSION

The development of nutritional products for preventing pathological conditions and improving the quality of life is of utmost importance for the consumer's health. The application of *in vitro*, *ex vivo* and *in vivo* methodologies for evaluating the biological activities of selected edible mushrooms rich in β -glucans, is expected to elucidate and establish the health-promoting properties of fungal β -glucans.

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