

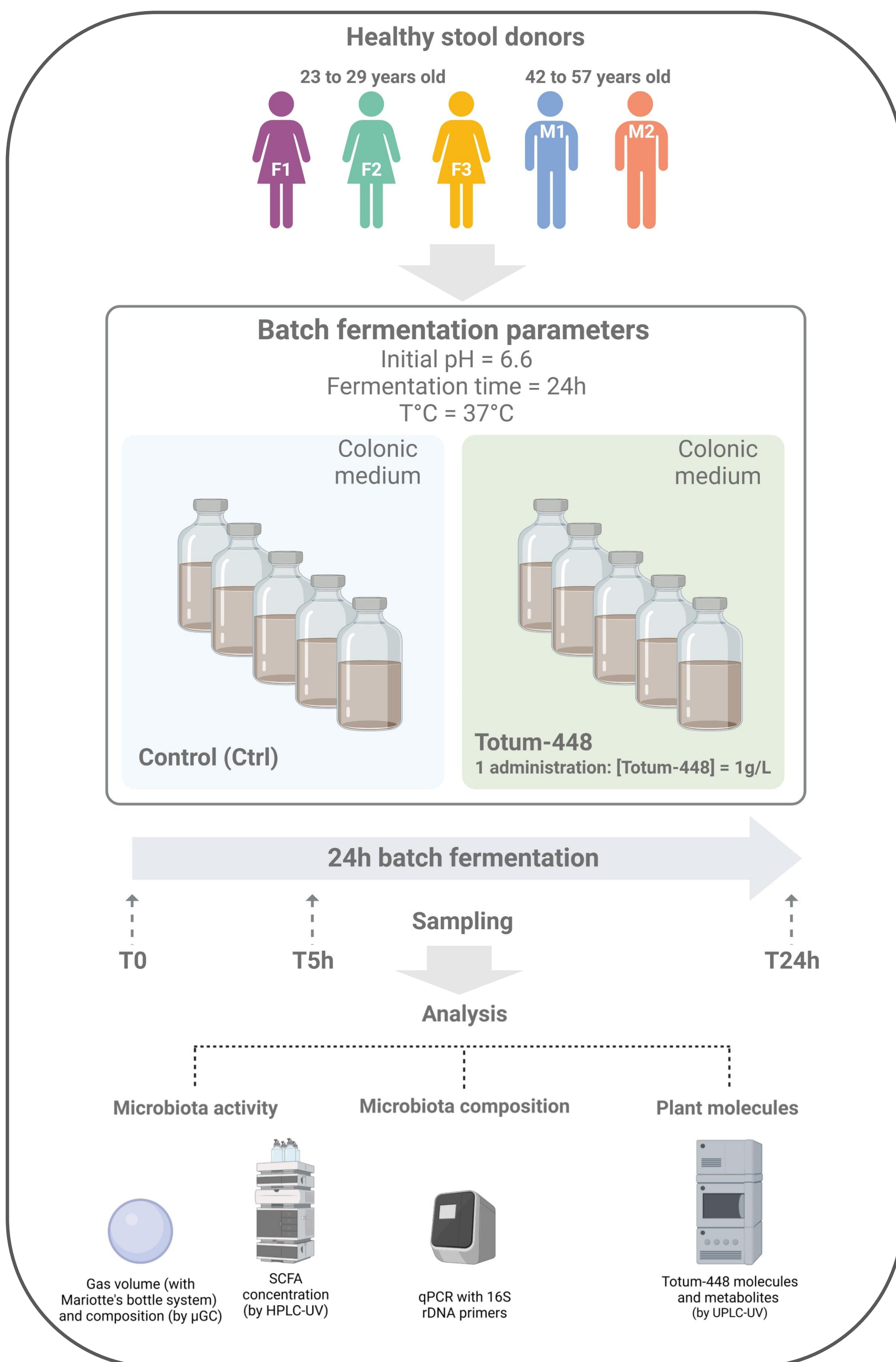
## Introduction

Non-alcoholic fatty liver is a highly prevalent disease that, if untreated, can progress to non-alcoholic steatohepatitis (NASH). An interplay between western diet and gut microbiota has been reported to be involved in its development (Aron-Wisniewsky *et al.* 2020). Nutritional strategies can be used to prevent NASH development. In particular, plant extracts, with a great diversity of bioactive molecules including polyphenols and fibers, are a promising approach for a multitargeted strategy against the disease (Nakano *et al.* 2020). In this context, the aim of this study was to investigate the interactions of Totum-448, a combination of plant extracts designed to prevent NASH, with gut microbiota from healthy human origin, using batch colonic fermentation assays.



- ❖ Identify the effects of Totum-448 molecules on human gut microbiota composition and metabolic activities
- ❖ Evaluate the potential metabolization of Totum-448 by the gut microbiota

## Materials & Methods



## Conclusion

- ❖ No significant effect of Totum-448 on a healthy human gut microbiota activity and composition despite interindividual variability
- ❖ Key role of gut microbiota in plant extracts bioavailability through very efficient metabolization of Totum-448 polyphenols regardless the donor

## Perspectives

- ❖ Further metabarcoding analysis of gut microbiota for an in-depth study of Totum-448 effects
- ❖ Additional identification of Totum-448 metabolites
- ❖ Impact of repeated Totum-448 administration on gut microbiota composition and activities
- ❖ Further studies on Totum-448 effects using a more complex model of human gut microbiota, such as the mucosal artificial colon (M-ARCOL)

## Results

