

THE *IN VITRO* EFFICACY OF AN INNOVATIVE ANTI-MYCOTOXINS AGENT AGAINST EMERGING AND MASKED MYCOTOXINS

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INTRODUCTION

Mycotoxins are low-molecular-weight secondary metabolites produced by fungi. Mycotoxins are considered a very important public health issue because of their adverse effects on animals and humans.

Emerging mycotoxins are mycotoxins that are not routinely determined and are not legislatively regulated, including beauvericin and enniatins. **Masked mycotoxins** formed by conjugation with polar compounds, as a plant defense mechanism, are not analyzed by conventional methods and may be more toxic than the original mycotoxin.

OBJECTIVE

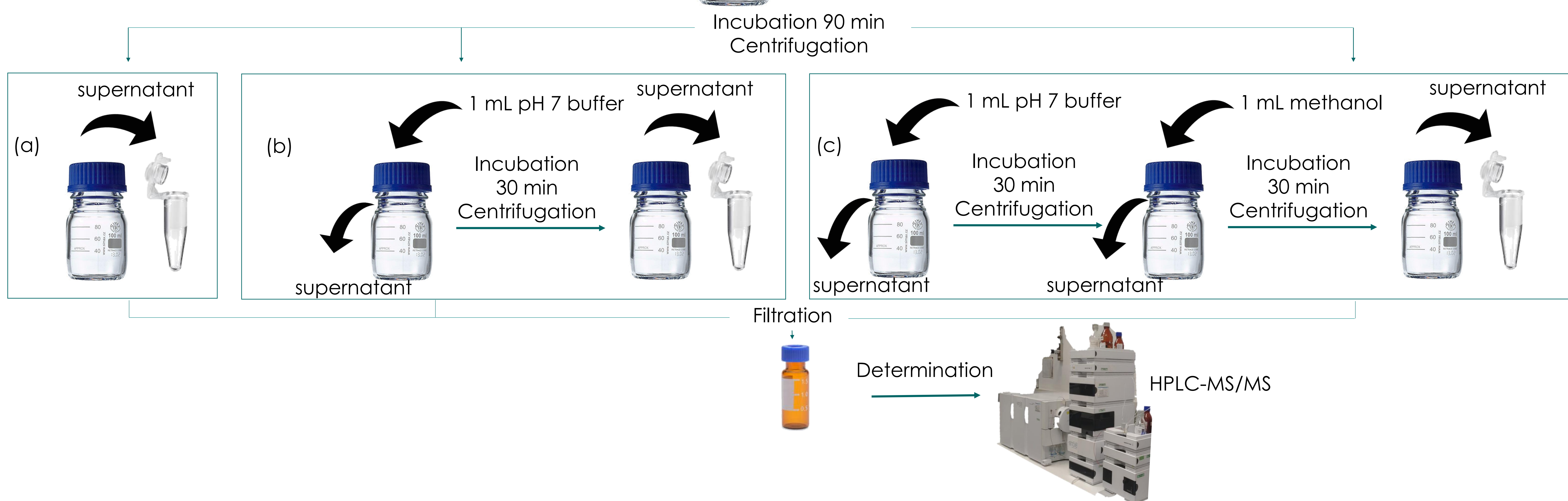
The aim of the present study was to evaluate the *in vitro* efficacy of an anti-mycotoxins agent that contains selected binding material and natural extracts besides an exclusive combination of yeasts, against some emerging and masked mycotoxins.

MATERIALS AND METHODS

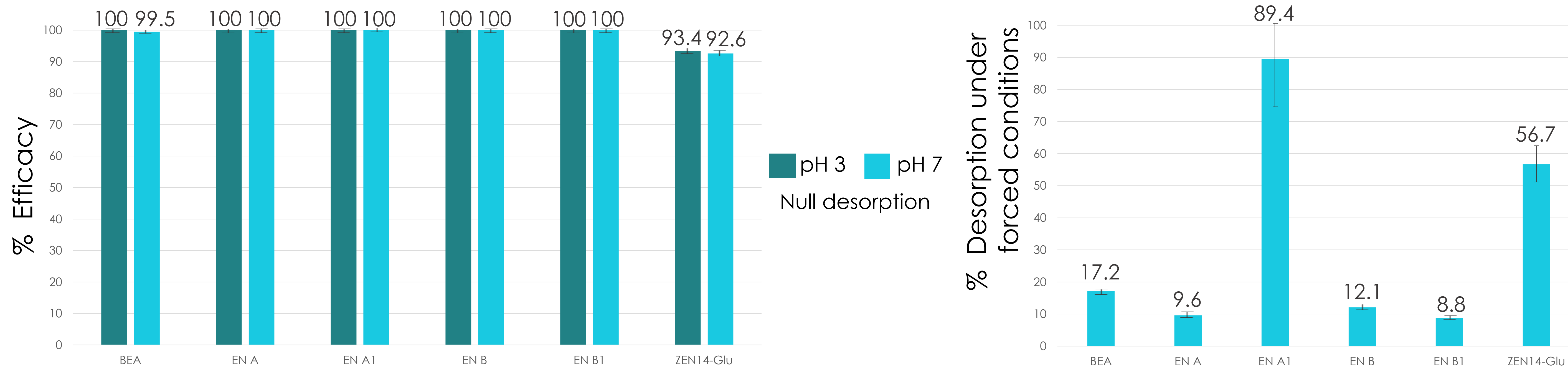
In vitro efficacy trial – Emerging and masked mycotoxins

- (a) Adsorption at pH 3, pH 7
- (b) Desorption
- (c) Desorption under forced conditions

Anti-mycotoxins agent
10 mg/mL
1 mL pH 3, pH 7 buffer
5000 µg/mL emerging mycotoxins: beauvericin (BEA), enniatin A (EN A), enniatin A1 (EN A1), enniatin B (EN B), enniatin B1 (EN B1)
5000 µg/mL masked mycotoxin: Zearalenone 14 glucuronide (ZEN 14-Glu)



RESULTS



CONCLUSIONS

The **innovative anti-mycotoxins agent** tested in the present study is a promising strategy with **high *in vitro* efficacy** against **emerging** (beauvericin and enniatins) and **masked** (ZEN14-glucuronide) **mycotoxins** and **low desorption under gastrointestinal conditions**.