

THE EFFECT OF CURCUMIN AND SILYMARIN IN MITIGATING THE OXIDATIVE STRESS INDUCED BY DEOXYNIVALENOL IN HEPATIC CELLS

Insaf Riahi¹, Meritxell Sadurní¹, Raquel Codina¹, Lúdia García¹, Clàudia Casellas¹, Laura Escrivá², Giuseppe Meca²

¹Technical Department, BIÖNTE Nutrition, Reus, Spain

²Laboratory of Agrifood Biotechnology Department of Preventive Medicine Nutrition and Food Science Area Faculty of Pharmacy University of Valencia (Spain); insaf.riahi@bionte.com

INTRODUCTION

Oxidative stress is an important mechanism of deoxynivalenol (DON) toxicity. **DON** mycotoxin generates free radicals that disrupt the redox balance and induce DNA damage and apoptosis in the liver.

In this context, natural **plant extracts** have received a great deal of attention due to their powerful **antioxidant** capacity, among a wide range of beneficial-health properties.

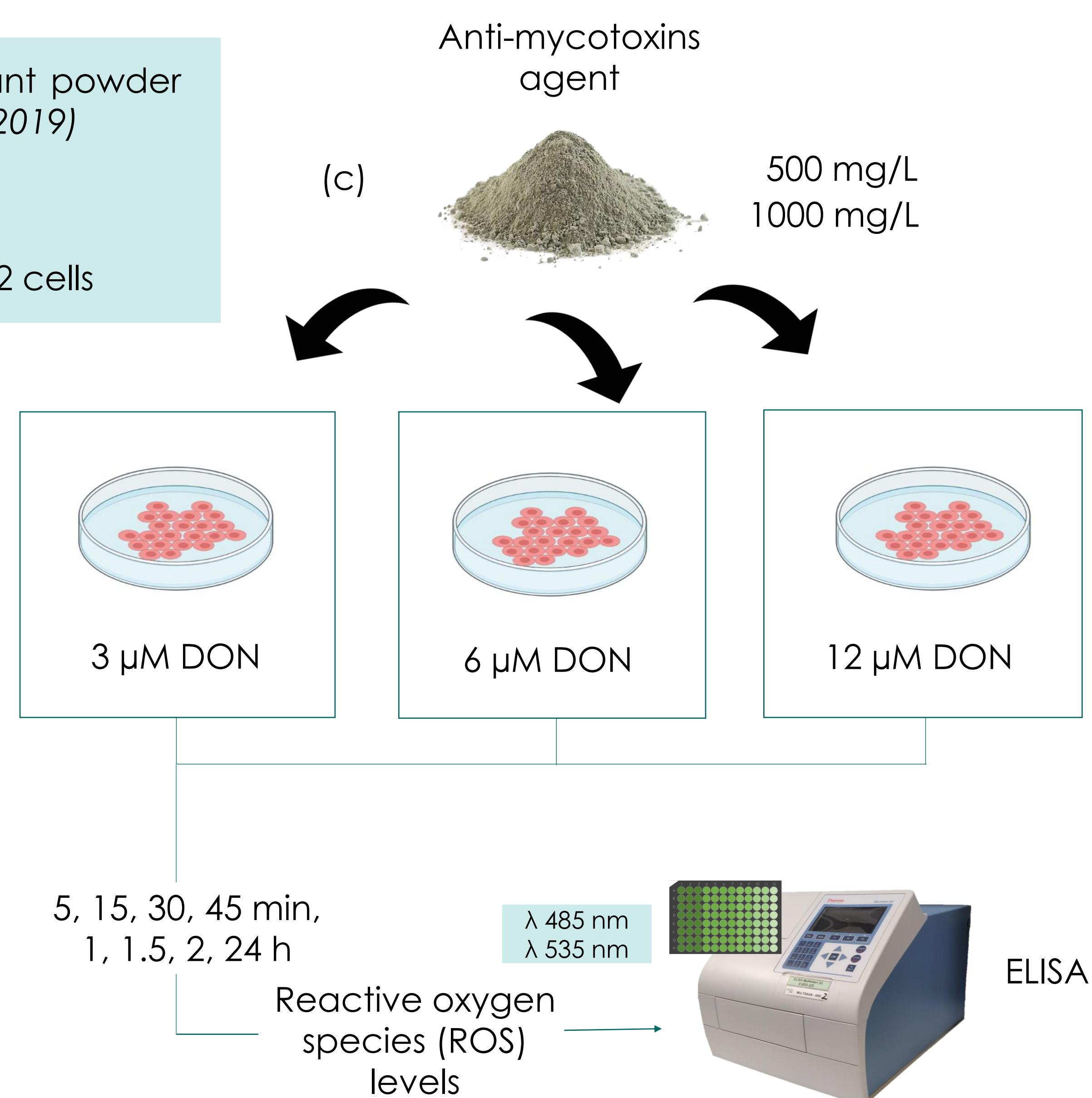
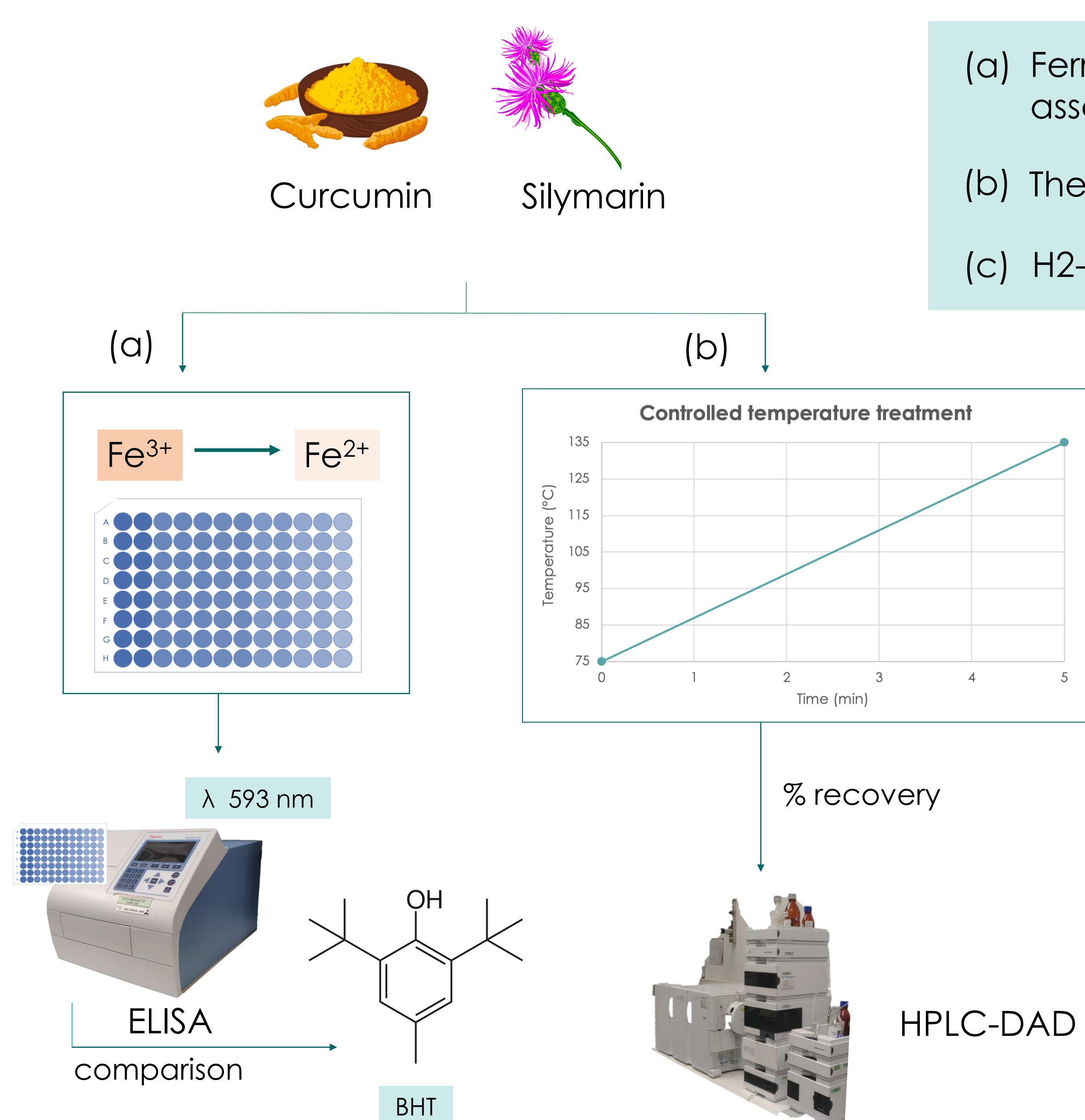
OBJECTIVE

The aim of the present study was to evaluate the *in vitro* capacity of an anti-mycotoxins agent that contains a combination of polyphenolic compounds from turmeric (curcumin) and milk thistle (silymarin) extracts to reduce the oxidative stress induced in hepatic cells by DON.

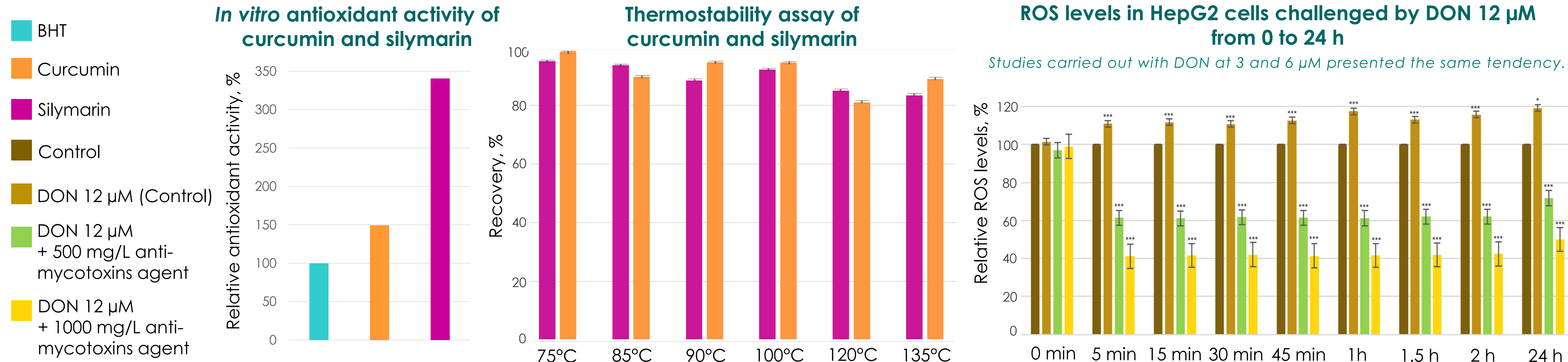
MATERIALS AND METHODS

In vitro antioxidant capacity and thermostability

In vitro oxidative stress induced by DON in hepatic cells



RESULTS



CONCLUSIONS

The **combination of curcumin and silymarin** is a thermostable combination of natural extracts that provide **effective antioxidant** activity to alleviate the oxidative stress induced by **DON** in hepatic cells.