

In vitro bioaccessibility and antioxidant capacity of extracts obtained from boldo leaves (*Peumus boldus*) for its application as a functional ingredient



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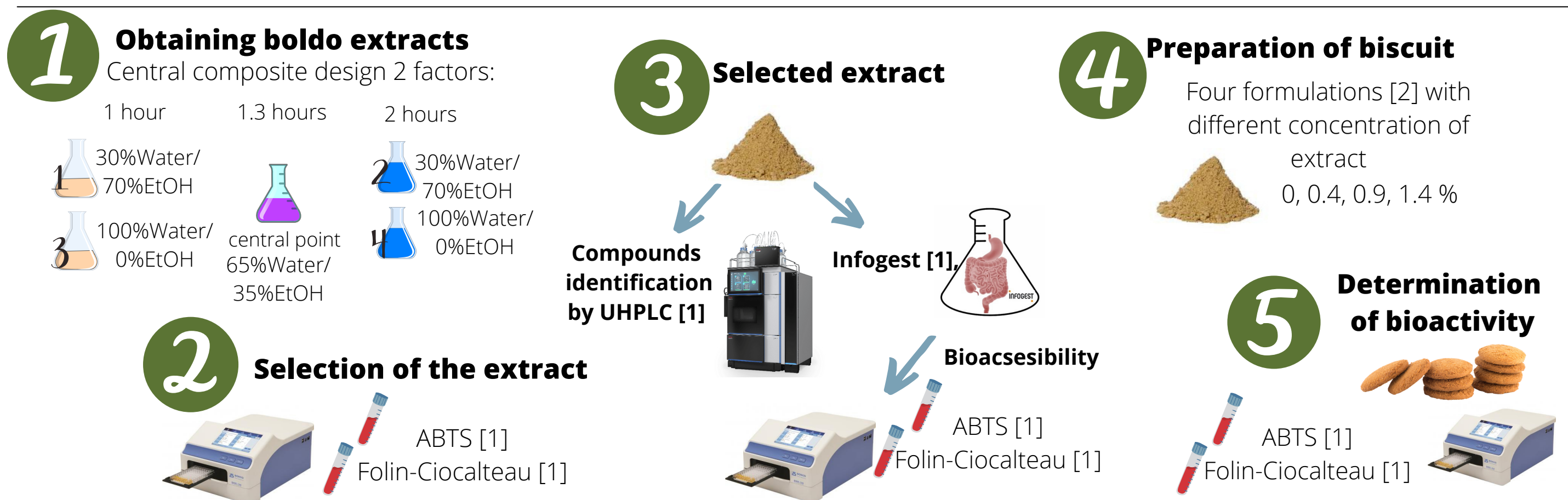
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INTRODUCTION

Food is currently changing, consumers are more aware of the lifestyle they lead and the risks associated with it. This causes a growing demand for consuming new, healthy, nutritious and natural foods that also contain ingredients that provide certain health benefits. The aim of this work was to provide novel information regarding the in vitro bioaccessibility of the bioactive compounds present in extract from boldo leaves (*Peumus boldus*) and studying the potential application in the development of orange biscuits.

MATERIALS AND METHODS



RESULTS AND DISCUSSION

The extract selected was simple and environmentally friendly extraction using **water** as a solvent at a **temperature of 70°C** and an **extraction time of 1 hour**. **Total phenol content: 218,83 ± 25,91 mg eq GAE/g extract dry**. **Antioxidant capacity: 720,56 ± 15,00 µMol eq TE/g extract dry**.

Compounds identification in the extract

- ✓ Gallic acid
- ✓ Chlorogenic acid
- ✓ Rutin
- ✓ Catechin

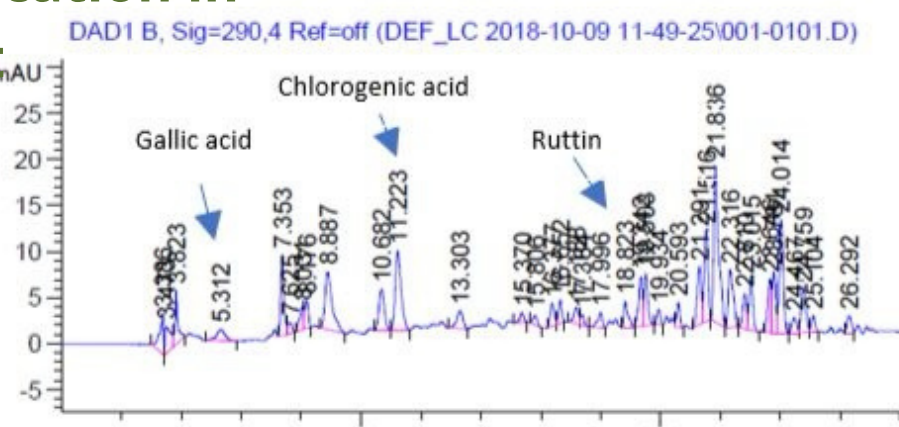
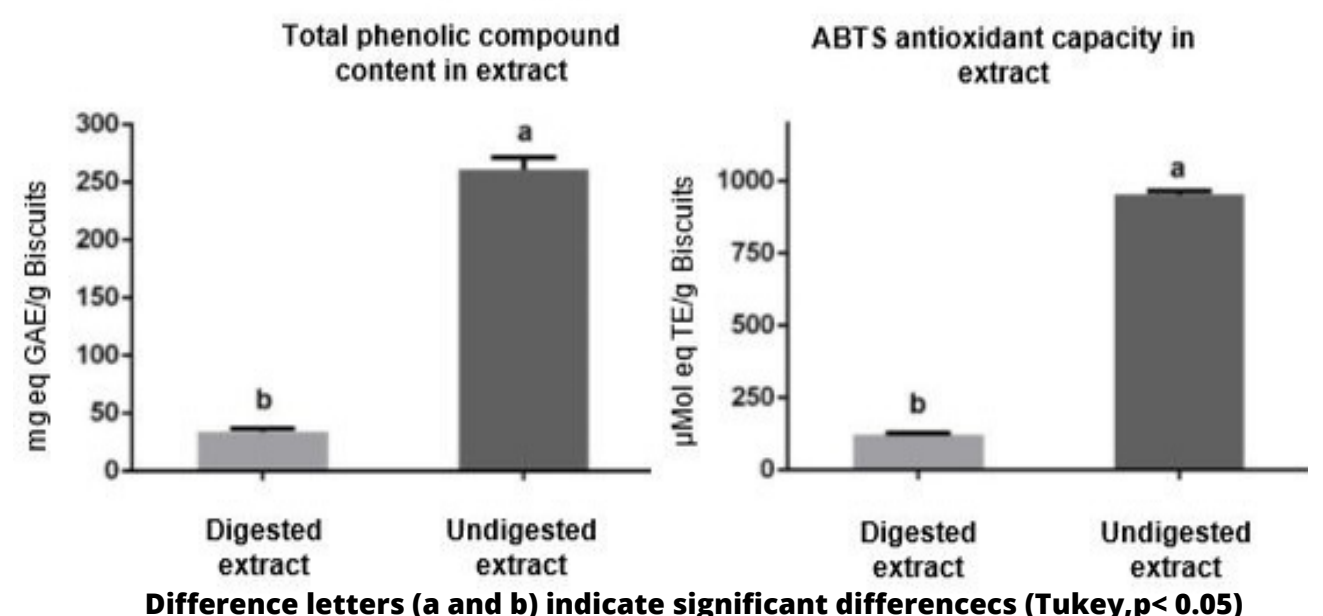
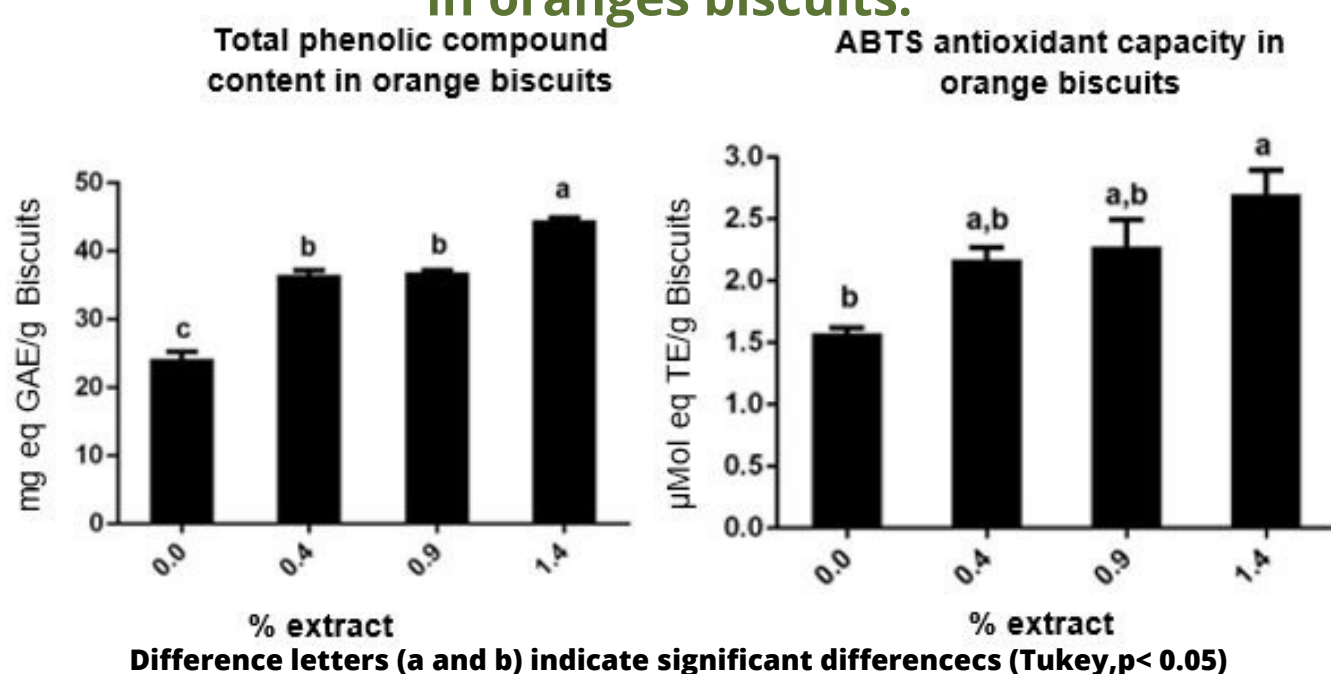


Figure 1: Chromatograms obtained at a wavelength of 290 nm. Gallic acid (tR: 5,312), chlorogenic acid (tR: 11,223) and rutin (tR: 18,823).

Total phenol content and ABTS antioxidant capacity in the undigested and digested extract.



Total phenol content and ABTS antioxidant capacity in oranges biscuits.



CONCLUSION

An extract with high antioxidant power and total phenol content was obtained using water as solvent. Four phenolic compounds were identified in the extract: gallic acid, catechin, rutin and chlorogenic acid. The extract subjected to the digestion process showed a bioaccessibility of 13% for total phenolic compounds. The use of the extract in the biscuit formulation showed an increase in total phenolic content and antioxidant capacity, making the extract a potentially functional ingredient for use in food processing.

References

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