



In vitro evaluation of Peixinho da horta (*Stachys byzantina*) extracts obtained using natural deep eutetic solvents

Name: Caroliny Fernanda Batista da Silva; Stefanie Calisto Casarin; Flávia Aparecida Cardoso Reitz; Renata Hernandez Barros Fuchs; Adriana Aparecida Droval; *Leila Larisa Medeiros Marques

Affiliation: *Professor at the Federal Technological University of Paraná - *campus* Campo Mourão

Country: Brazil

Email ID: leilamarques@utfpr.edu.br

ABSTRACT

The “peixinho da horta” (*Stachys byzantina*) is a non-conventional food plant rich in vitamin A and a range of minerals such as iron and calcium, in addition to having a high antioxidant power and a high amount of total phenolics, which makes it an object of interest in this study. Thus, it was proposed to extract compounds with antioxidant potential from *Stachys byzantina* leaves using different combinations of natural deep eutetic solvents (NADES) compared to conventional ones, in addition to investigating the best combination for the species with the response variables in content of bioactive compounds and antioxidant capacity. The extracts obtained were evaluated for phenolics, flavonoids and antioxidant capacity by the DPPH, ABTS and FRAP methods. The contents of bioactive compounds ranged from 0.308 to 0.811 mg EAG.g⁻¹ for total phenolics and from 0.030 to 1.162 mg EQ.g⁻¹ for total flavonoids. The antioxidant capacity of the extracts evaluated by the DPPH, ABTS and FRAP methods ranged from 1.867 and 6.706 μmol ET.g⁻¹, 0.420 and 2.159 μmol ET.g⁻¹ and 100.376 and 299.156 μmol ET.g⁻¹, respectively. The desirability function and principal component analysis (PCA) defined the LP-Ale(1-Proline-levulinic acid)-50% solvent as the best combination for the recovery of bioactive compounds of the species. The results show the superiority of NADES compared to conventional solvents and the content of compounds found indicate that the extracts can be used in future work with the aim of applying them in the food and pharmacological industry.

BIOGRAPHY

Leila Larisa Medeiros Marques has completed a degree in Pharmacy - Qualification in Industry at the Federal University of Paraná (2001), a Master's in Biotechnology at the State University of Londrina (2004) and a PhD in the Postgraduate Program in Pharmaceutical Sciences at the State University of Maringá (2016), area of concentration in Biologically Active Natural and Synthetic Products. She has experience in the field of Biochemistry, Microbiology and Phytochemistry. She is currently a professor at the Federal Technological University of Paraná (UTFPR) and she serves as the undergraduate director at UTFPR.

Presenter Name: Leila Larisa Medeiros Marques

Mode of Presentation: Poster

Contact number: +55(44)998272460

