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Antioxidant activity of wild garlic extract (*Allium ursinum*) obtained by subcritical water extraction

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Allium species have been used as a source of health benefit compounds in the traditional medicine for many centuries thanks to its wide-spread distribution and popularity as edible and medicinal plant. In the past few years the interest for wild garlic and its use for prevention, maintaining of the human health as well in nutrition is significantly growing. Subcritical water extraction, SWE, is recognized as one of the most potential extraction technologies for isolation of bioactive compounds, especially antioxidants. Therefore, optimization of subcritical water extraction was conducted in order to maximize antioxidant capacity of the extract. Antioxidant capacity was investigated by application of two test analysis, DPPH and ABTS test. The antioxidant activity for obtained *A. ursinum* extracts determined using DPPH test, was in the range from 0.04 to 0.47 mg/ml (calculated on IC_{50}), while antioxidant activity measured by ABTS ranged from 0.96 to 11.78 mM TEX/100g DW. Additionaly total phenols and flavonoides were analyized which are responsile for antioxidant activity. Temperature shows to be the most important extraction parameter. The increase of temperature induces the increase of antioxidant activity of obtained extracts (expressed in DPPH and ABTS test). Antioxidant activity of extracts obtained using subcritical water extraction was much higher than activity of *A. ursinum* extracts obtained in our previous study.

Biography

Alena Tomšik is a PhD student at Department of Biotechnology and Pharmaceutical Engineering, Faculty of Technology, University of Novi Sad. Currently, she is employed as a research associated at Institute of Food Technology, University of Novi Sad.

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