

## Chemical composition and antimicrobial effect of aqueous and ethanolic extracts of stinging nettle (*Urtica dioica L.*)

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Stinging nettle (*Urtica dioica L.*) is a widespread herbaceous plant all around the world and used for curing different types of diseases for centuries.

Our aim was to investigate the extractable chemical composition of different organs of stinging nettle and determine the antimicrobial effects against certain human pathogenic bacteria and yeasts. Chemical analysis of aqueous and ethanolic extracts was performed by measuring the total polyphenol content and antioxidant capacity of the extracts and separation of the extracted compounds by HPLC. Antimicrobial activity was determined by well-diffusion method.

Our results indicate that aqueous extracts of leaves had about twice as much polyphenol content and antioxidant capacity than the roots, which correlated well with the H-donor activity of the samples. HPLC analysis revealed high rutin contents of leaves and less in roots, together with other metabolites in much lower concentrations. Antimicrobial effect of aqueous extracts was more pronounced against bacteria, than yeasts. Growth of *Escherichia coli*, *Pseudomonas aeruginosa*, *Staphylococcus aureus* and *Listeria monocytogenes* was inhibited, while antifungal effect was detected only in case of *Candida glabrata*.