

# Abstract

**CHARLES UNIVERSITY**

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**Title of diploma thesis: Sources of ellagitannins and their effects on human organism**

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This diploma thesis is a literature review which focuses on an overview of ellagitannins, their sources, bioavailability, metabolism in the human body and effects on the human organism. Ellagitannins belong to the class of hydrolysable tannins which in the human gastrointestinal tract undergo hydrolysis to form ellagic acid. There is a high content of ellagitannins in the families Elaeagnaceae, Fagaceae, Geraniaceae, Lythraceae, Onagraceae and in some species of the family Rosaceae. Ellagitannins are found in medicinal plants as well as in commonly available foods, especially in berries and nuts. The intestinal microflora has the ability to metabolize ellagic acid to more bioavailable urolithins, but there are strong interindividual differences in the microbial conversion of ellagitannins among the population. Clinical studies provide evidence of the pharmacological activities of ellagitannins in many diseases, including cardiovascular diseases, diabetes mellitus, oncological diseases, central nervous system diseases, gastrointestinal diseases, musculoskeletal diseases, endocrine diseases and oral cavity diseases, which are analyzed in this diploma thesis.

**Keywords: ellagitannins, bioavailability, clinical studies, effects**