

Existence of free radicals as participants in biological processes, scientists expected at the beginning of the 20th century . Given the characteristics of these substances, their instability and very short half-life , however, was their exploring challenging to impossible , and therefore a deeper learning to occur with the development of relevant research methods. Hand in hand with uncovering secrets and patterns of oxidative damage to biological macromolecules occurred to focus attention also to a system that is capable of this action prevent and maintain a balance in the cell , the antioxidant system . It is formed diverse group of substances of enzymes catalyzing redox reactions through plasma proteins to substances that the human body is not capable of self-produce and must be obtained from food . The subject of the research are now interaction of both systems and applications, primarily acquired knowledge into practice.

What is the role of free radicals in the pathogenesis of disease states such as cardiovascular disease or malignancy ? How to participate in prenatal damage to the fetus ? They are involved in the aging process ? Together with obtaining answers to these and many other questions are logically appears another : we can use substances having antioxidant effects in preventing or treating these conditions ?

In the first part of this thesis , I focused on a general introduction to the topic free radicals and antioxidants. The second part is devoted to a closer information on some groups of substances with proven antioxidant capabilities that are naturally occurring in the environment around us and are a common part of our diet . For each group are given a natural source , the recommended daily dose , chemical aspects and present knowledge of their antioxidant action .