

# ABSTRACT

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Title of Diploma Thesis: **Effect of polyphenon on selected biotransformation enzymes in mice**

The green tea has been used in the world for centuries. Main substances in green tea include polyphenol compounds, for example catechins. Lately, possible positive effects of green tea and its substances on organisms have been studied intensively. Reduction of obesity and obesity related pathological conditions belongs among these effects.

The aim of this diploma thesis was to study the effects of green tea extracts (polyphenon) on activity and expression of selected biotransformational enzymes in normal and in obese mice. Measuring was performed in subcellular fractions of liver and small intestine homogenates of male mice. Out of 8 experimental groups two were the control groups (a group of normal and a group of obese mice who had not polyphenon in diet). Three groups of normal mice and three groups of obese mice were fed (over 3 or 28 days) with diet containing polyphenon in two different concentrations (0,1 and 0,01 %).

Results showed that three-day administration of polyphenon (0,1 % concentration in diet) significantly increased the activity of AKR1C enzyme in obese mice. Polyphenon administered for 28 days in 0,1 % concentration decreases activities of CBR, AKR1A1 and AKR1A/1C enzymes. Polyphenon in 0,01 % concentration doesn't significantly change any enzyme activity.