

## **Abstract**

Flavonoids are secondary metabolites of plants exhibiting a wide range of biological activities. Special attention is paid to them mainly because of their antioxidant properties. Consumption of these natural substances is currently increasing especially in the form of dietary supplements. In addition, these compounds exhibit antiviral, anti-inflammatory or hepatoprotective effects and some of them also exhibit mutagenic and/or pro-oxidative properties. The study of flavonoid interactions with biotransformation enzymes such as cytochromes P450 are important because of their possible interference with the metabolism of drugs or carcinogenesis processes.

In this bachelor thesis the influence of selected flavonoid compounds, dihydromyricetin and myricetin, on the expression and activity of cytochrome P450 3A4 was studied.

The flavonoid premedication of rats did not resulted in induction of CYP3A4. However, dihydromyricetin and myricetin inhibit CYP3A4.  $IC_{50}$  were determined as 25  $\mu$ M for dihydromyricetin and 24  $\mu$ M for myricetin.

**Key words: Immunodetection, HPLC, inhibition, induction**

(In Czech)