Abstract

Polyphenols are one of the largest groups of substances in the plant kingdom. They are widely represented in fruits, vegetables and many beverages. They are included up to 80% of higher plants. Moreover, there is an increasing interest to know of their metabolism. Polyphenols are considered as substances with generally positive effects. However, it is necessary to look at them as xenobiotics. However, it is necessary to regard these compounds as xenobiotics. Polyphenols are able to interact with key phase I biotransformation enzymes such as cytochrome P450.

In the present work we studied the influence of dihydromyricetine on induction of CYP1A1 in the body of the rat, particularly in the organs involved in the metabolism of xenobiotics, such as liver and small intestine. The small intestine was divided into three sections - a proximal, middle and distal. The evaluation was performed by real-time polymerase chain reaction. It was found dihydromyricetine did not significantly affect gene expression of CYP1A1 in liver. On the other hand, the change of gene expression on mRNA level was observed in small intestine; the significant increase was found in the proximal part, and small decrease in the middle part.

Key words: dihydromyricetine, cytochrome P450 1A1, mRNA, RT-PCR