

## **Abstract – Abstrakt**

Dihydromyricetin (DHM), also known as ampelopsin, is a natural antioxidant found in the plant *Ampelopsis grossedentata*, traditionally used in Chinese medicine. Dihydromyricetin exhibits health-benefiting activities. Besides its antioxidative, anti-inflammatory, anticancer, and antimicrobial effects, it is said to suppress intoxication by alcohol and mitigate the symptoms of hangover and abstention.

The mechanism of the activity of DHM on the metabolism of ethanol has not been fully explored. Thus, the focal point of the presented thesis was to explore the effect of DHM on the expression of CYP2E1, one of the major enzymes participating in the metabolism of ethanol in organisms.

Male rats were administered with ethanol (EtOH) or ethanol in combination with DHM, and the EtOH concentration of the blood was determined. The amount of EtOH and acetaldehyde in the blood of individuals indicates that DHM does not affect the rate of EtOH metabolism. Subsequently, the effect of DHM on repeated premedication of EtOH was monitored. The group of rats treated with DHM showed a slower metabolism of EtOH than the group solely premedicated with EtOH. Ultimately, the effect of DHM on CYP2E1 expression was studied. Microsomal fractions were prepared from the rat livers. By use of Western blotting with a following immunodetection, elevated levels of CYP2E1 were detected in the microsomal fractions of rats exposed to EtOH alone in opposition to rats exposed to EtOH in combination with DHM. Thus, the ability of DHM to reduce CYP2E1 was confirmed.

**Key words: flavonoid, MEOS, biotransformation**