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## Long-term Effects of Scutellaria Radix Water Extracts on Brain and Liver Function in Mice Ingested High Fat Diet with High Dose of Alcohol

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Scutellaria radix (SR) has been known to have neuroprotective and hepatoprotective effects. Ethanol abuse has been shown to have an adverse effect on the brain and liver, both in vivo and in vitro, but the detailed mechanisms are not known yet. Recent studies suggest that the actions of ethanol in several biological systems involve nitric oxide(NO) or cyclooxygenase-2(COX-2) pathways. The aim of this study was to investigate whether SR(100 ug/ml) water extract can affect long-term ethanol abuse (fed 25 % ethanol in water for 1 month, *ad libitum*) in mices fed high fat diet (40 % of energy). Mice received either a regular diet(RD, AIN 93) or a high fat diet(HD); high fat diet group was subdivided into ethanol treated group(HED), and a SR treated (HEDS) group. Consumption of diets and body weights were recorded daily and every week, respectively throughout the study period. Blood GOTs, GPTs, LDH, total triglyceride, total cholesterol, HLD-C, LDL-C, albumin and glucose levels were measured. COX-2 immunoreactivity was also investigated. Within 2 weeks, rats became accustomed to all diets. Body weights were comparable in all groups. Marked differences in blood parameters were shown between in the HED and the other groups. COX-2 immunoreactivity was significantly increased in the HED group otherwise, very little changes were shown in the other groups. Nicotinamide adenine dinucleotide phosphate-diaphorase activity also slightly decreased in the HED group. These results suggest that COX-2 plays an important regulatory role in ethanol-induced damage and SR water extracts may exert its protective effect via suppressing COX-2 induction.