

【SL1】**Effects of *Scutellariae Radix* Water Extract on Cell Proliferation and Death in Experimental Models of Ethanol and High Fat Diet**

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Scutellariae radix (SR) is an herb medicine that has been known to have neuroprotective effects. In this study, the effects of SR water extract on brain cell proliferation and death *in vitro* and *in vivo* experimental models treated with ethanol and high fat diet were investigated.

First, ethanol treatment induced caspase-11, which is inducible under pathological conditions, in neuroblastoma cells. The induction of caspase-11 was blocked by SR treatment. Second, acute ethanol treatment significantly increased cyclooxygenase (COX-2) immunoreactivity (IR) in CA3 region and nuclearfactor kappa B (NF- κ B) IR in the dentate gyrus (DG) and it also reduced the nicotinamide adenine dinucleotide phosphate-diaphorase (Nd)-reactivity in the DG and CA3 region of mice. However, SR water extract (100 mg/kg) recovered the COX-2 IR, NF- κ B IR and the Nd-reactivity. Third, chronic ethanol abuse in mice (fed 25 % ethanol) fed high fat diet (40 % of energy) significantly decreased the Nd-reactivity, the numbers of phosphorylated cAMP response element binding (pCREB) and polysialylated form of neural cell adhesion molecule (PSA-NCAM) in the DG. SR water extract recovered ethanol-induced damage via modulating NOS activity and 5-HT expression in hippocampus. GOTs, GPTs, LDH, total triglyceride, total cholesterol, HDL-C, LDL-C, albumin and glucose were measured from the serum and liver of the all groups. Marked difference was shown between in HED and the other groups. Finally, acute ethanol abuse in mice fed high fat diet for 6 weeks decreased the numbers of 5-bromo-2'-deoxyuridine (BrdU), the proliferating cells, pCREB and PSA-NCAM IR cells in the DG, while SR water extract recovered those reductions. Overall, these results show that SR water extract may have the protective effects on damage induced by ethanol.