

Effects of *Cornus officinalis* on Hypoglycemic Complications Associated with Streptozotocin-Induced Type 2 Diabetic Mice

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This study intended to investigate the preventive effect of *Cornus officinalis* (CO) on blood sugar, serum triglyceride and total protein levels as well as hepatic glucose and lipids contents in streptozotocin (STZ)-induced type 2 diabetic mice and to explore its possible mechanism.

Fifty male ICR mice were randomly divided into five groups: control group, diabetic group, CO-treatment groups (20, 100, 500 mg/kg BW). The morphology of hepatocytes was observed by light and electron microscopy. Moreover, blood sugar, serum triglyceride and total protein levels, hepatic glucose and lipids contents, liver weight, insulin levels and free fatty acid (FFA) levels were measured.

After preventive treatment with CO, less hepatocyte steatosis, clearer crista and fewer glycogen granules in the mitochondria were observed. Decreased liver weight, TG levels, and FFA concentrations ($P < 0.05$) in the liver were also observed after treatment with CO in diabetic mice. Moreover, the elevated serum blood sugar, triglyceride and total protein levels as well as hepatic glucose and lipids contents in STZ-induced mice were significantly decreased by the 4-week oral administration of CO extracts.

These results suggest that CO would possess hypoglycemic effect and act as a regulator of hepatic inflammatory reactions and lipid metabolism in STZ-induced type 2 diabetic mice.

Key words: Type 2 diabetes mellitus, *Cornus officinalis*, streptozotocin, mitochondria

Nephrotoxicity Study on Fifteen Common Use TCM Prescriptions

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The purpose of this study is to evaluate the effects of fifteen frequently used clinical Chinese preparations (CPs) on kidney function. Fifteen CPs that have not been studied are selected from the top 100 common used CPs for the evaluation. This study using kidney cell lines for potential candidates and the particular candidates will be tested in the animal study.

Screening of CPs using porcine renal proximal tubular epithelia cell line (LLC-PK1) and Mardin-Darby canine kidney cell (MDCK), CRL-2280 and CRL-1927 cell lines were completed. Assessment of 3 different GMP pharmaceutical companies (A, B, and C) for the 15 commonly used clinical CPs were compared. The results indicated that the sensitivity of the four cell lines to the CPs is CRL-2280 > LLC-PK1 > CRL-1927 > MDCK. The Chai-Hu-Kuei-Gi-Tang from B company was caused the four cell line death. The Tau-Hung-Shi-Wu-Tang from A and B companies, Huanh-Lian-Shung-Chin-Wan from B and C companies, Chin-Jau-Be-Jia-Tang from C company were caused three cell lines death. One-third prescriptions were shown to have a cell viability less than 75%. For the CRL-2280 and LLC-PK1, on the other hand, every CPs shown significant cytotoxicity.

Key words: Nephrotoxicity, Chinese preparations, cell lines