

[PA1-19] [ 10/19/2000 (Thr) 10:00 - 11:00 / [Hall B] ]

**Studies of resveratrol and related hydroxystilbenes on the production of nitric oxide from macrophage cells**

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Effects of resveratrol on the production of nitric oxide were studied from mouse macrophage cells. Resveratrol significantly inhibited the LPS-induced nitric oxide production in a dose-dependent manner. To study the structure activity relationship resveratrol and 10 related hydroxystilbene compounds,  $\beta$ -estradiol were tested the inhibition of nitric oxide production. Resveratrol and 3,5-dihydroxy-4'-methoxystilbene showed prominent inhibitory activities and their  $IC_{50}$  values were 17 and 25 $\mu$ M, respectively. However,  $\beta$ -estradiol did not produce noticeable effect on nitric oxide production at physiological concentrations, suggesting that estrogen receptor is not involved for the inhibition of nitric oxide production. Resveratrol failed to inhibit the LPS-induced tyrosine phosphorylation of MAPK. At relatively high concentration (100  $\mu$ M), resveratrol inhibited the mobilization of NF- $\kappa$ B.

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**Hypoglycemic activities of Supoongsungihwan and its simplified prescriptions in high fat diet-and Streptozotocin-induced diabetic mice.**

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Supoongsungihwan (SPSGW), which is on record in Chinese ancient writings (Entrance to Medical Science), has been known as improvement in the functions of gastrointestinal tract and kidney. In high fat diet-induced diabetic mice, the hypoglycemic activities and mechanisms of SPSGW and its simplified prescriptions (A:Daehwang B:Jisil, Bangpoong, dokwhal C:Chajunja, Ukiin, Binlang, Majain, Tosaja, Useul, Sanyak, Sansuyu) were compared. The 10-fold dose of each prescription was administered once a day for 6 weeks. Body weight and food intake were measured daily and fasting blood glucose (FBS) weekly for 6 weeks. Quantification of glucose transporter (GLUT-4) in muscle and phosphoenolpyruvate carboxykinase (PEPCK) in liver mRNA were performed by RT-PCR. In SPSGW, A and C group, the GLUT-4 gene expression is increased and in SPSGW and A group, the PEPCK gene expression is decreased. FBG and body weight was decreased in all prescriptions-treated groups when compared to high fat diet control group. In STZ-induced diabetic mice, to figure out which constituents in SPSGW represent antidiabetic activity, Chajunja(51%), Jisil(51%), Useul(53%), and Tosaja(56%) showed marked hypoglycemic activity in streptozotocin-induced diabetic mice. We may suggest that SPSGW showed significant antidiabetic activities due to reducing insulin resistance through affecting gene expressions of hepatic PEPCK, muscular GLUT-4 and the active components of SPSGW for antidiabetic activities was Chajunja, Jisil, Useul and Tosaja.

[PA1-21] [ 10/19/2000 (Thr) 10:00 - 11:00 / [Hall B] ]

**The hypoglycemic and Renal Protection effects of Singihwan(SGW) in STZ -**