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### Effect of Ethanol Extract from *Salvia miltiorrhiza* on Cytochrome P450 1A1 and Ornithine Decarboxylase Activities

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Ethanol extracts from *Salvia miltiorrhiza* was tested for breast cancer chemopreventive activity by measuring 7,12-dimethylbenz[a]anthracene (DMBA)-induced cytochrome P450 1A1 and phorbol 12-*O*-tetradecanoylphorbol-13-acetate (TPA)-induced ornithine decarboxylase (ODC) activities. The *in vitro* incubation of rat liver microsome with ethanol extracts from *Salvia miltiorrhiza* (100, 300, 600, 900, and 1,200 µg/ml) showed a dose-dependent inhibition of DMBA-induced cytochrome P450 1A1 activity. The extract also showed 3.0, 9.0, 18.3, 40.1 and 57.9% inhibition of TPA-induced ODC activity at the concentrations of 100, 300, 600, 900 and 1,200 µg/ml, respectively. These results suggest that *Salvia miltiorrhiza* has breast cancer chemopreventive potential by inhibiting cytochrome P450 1A1 and ODC activities. [This work was supported by the MRC program of MOST/KOSEF(grant # : R13-2005-013-01003-0), Korea]

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### Induction of Phase II Enzyme in Mice by *Salvia miltiorrhiza*

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The effect of *Salvia miltiorrhiza* on the induction of phase II enzyme in ICR mice was investigated. ICR mice were administered with ethanol extract from *Salvia miltiorrhiza* (250 mg/kg body wt) for 14 days. The induction of phase II enzyme such as quinone reductase (QR) and glutathione *S*-transferase (GST) activities was measured from the liver of treated mice. The GSH levels was also measured. QR and GST activities were induced about 1.7 and 1.5-fold, respectively. GSH levels also increased about 1.4-fold. These results suggest that *Salvia miltiorrhiza* has cancer chemopreventive activity by increasing phase II enzyme activity and GSH levels *in vivo*. [This work was supported by the MRC program of MOST/KOSEF(grant # : R13-2005-013-01003-0), Korea]