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Effect of *Cnidium officinale Makino* aqua-acupuncture solution and *Cnidium officinale Makino* water-extracted solution on the induction of phase II detoxification enzymes

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Induction of phase II, enzymes such as quinone reductase (QR) or glutathione S-transferase (GST) is considered a major mechanism of protection against initiation of carcinogenesis. The present study was performed to evaluate the chemopreventive activity of *Cnidium officinale Makino* aqua-acupuncture solution (COMAS) and *Cnidium officinale Makino* water-extracted solution (COMWS) *in vitro*. COMAS and COMWS are potent inducer of quinone reductase and glutathioe S-transferase activities in murine hepatoma Hepalclc7 cells. However, GSH activity was not increased with COMAS and COMWS. These results suggest that COMAS and COMWS may act as blocking agents against carcinogenesis by induction of phase II enzymes.