## Hypoglycemic Effect of the Aqueous Extract of Chinese Galls

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SUMMARY. The present study was aimed to investigate the hypoglycemic effect of the aqueous extract of Chinese galls (AECG) and its possible mechanism. The diabetic mice induced by alloxan were chosen to study the effect of AECG, which was administered orally for 7 days. The fasting blood glucose levels were found to be significantly reduced in treated mice. A Caco-2 monolayer cell model was established to examine the effect of AECG on  $\alpha$ -glucosidase activity and to determine the mechanism involved. The effect of AECG on  $\alpha$ -glucosidase activity was measured and glucose uptake and transport were evaluated. AECG dose-dependently inhibited  $\alpha$ -glucosidase activity in Caco-2 monolayers. Furthermore, AECG treated moderately but significantly suppressed the uptake and transport of glucose. Our data suggest that AECG possesses the hypoglycemic effect on alloxan induced diabetic mice; the speculated mechanism may be associated with inhibition of disaccharidase activity, possibly the  $\alpha$ -glucosidase enzyme, and with inhibition of uptake and transport of glucose.

*KEY WORDS:* Aqueous extract, Caco-2 cells, Chinese galls, Hypoglycemic effect,  $\alpha$ -glucosidase, Glucose uptake, Glucose transport.

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