

essential oil of AGR impressively inhibited the activity of γ -aminobutyric acid (GABA) transaminase, a degrading enzyme for GABA as inhalation period is lengthened. The GABA level was significantly increased and glutamate content was significantly decreased in mouse brain by the preinhalation of an essential oil. Above results suggest that anticonvulsive effect of an essential oil of AGR is originated by the enhancement of GABA level in the mouse brain, because convulsion depends partially on GABA concentration which can be properly preserved by inhibiting GABA transaminase. Moreover, fragrance inhalation progressively prolonged the pentobarbital-induced sleeping time as inhalation time is lengthened. Ten hour inhalation corresponded almost to the effect (145% increase) of oral administration (60 mg/kg). This sedative effect after inhalation or oral administration of the essential oil suggests that the essential oil of AGR may act on the CNS via the GABAergic system. The inhibitory activity of preinhalation of an essential oil on lipid peroxidation, which is attributable to the anticonvulsive action, also supported above results, confirming and extending our previous reports on the CNS inhibitory effects of AGR

[PD3-9] [04/18/2003 (Fri) 13:30 - 16:30 / Hall P]

Effect of bioconverted ginseng and its butanol fraction on adenine-induced renal failure in rats

Shin Yong-Wook^o, Choi Hyuck-Jai, Park Jong-Eun, ¹Kim Dong-Hyun, Kim Nam Jae

East-West Medical Research Institute and ¹College of Pharmacy, Kyung-Hee University

To elucidate the effect of bioconverted ginseng (Sun ginseng) and its butanol fraction on adenine-induced renal failure, rats were fed *ad libitum* on diet containing 0.75% adenine for 20 days to induce renal failure, and bioconverted ginseng was orally administered during the feeding period. On days 10 and 20, BUN, Creatinine, Ca and P contents were analyzed in serum and urine, and on days 20, blood pressure, heart pulse and relative kidney weight were measured. In conclusion, those parameters had significant changes in the both bioconverted ginseng and its butanol fraction treated groups on comparison with nontreated groups.

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INDUCTION OF GROWTH HORMONE RELEASE BY GLYCYRRHIZAE RADIX

Jung DaeYoung, Lee HoYoung, Ha Hyekyung, Jung DaYoung, Yang HaRu, Lee JeHyun, Kang SamSik, Kim Chungsook^o

Department of Herbal Pharmaceutical Development, Korea Institute of Oriental Medicine; Department of Oriental Pharmaceutical Science, Kyung Hee University; Natural Products Research Institute, Seoul National University

The aim of this study was designed to determine the induction of rat growth hormone (rGH) by extracts of a popular herb, Glycyrrhizae radix (GR), roots of *Glycyrrhiza glabra* Linne, and *Glycyrrhiza uralensis* Fischer. *In vitro* study was carried out using primary rat pituitary cell culture for 3 days and then was treated with methanol extract corresponding to 1 mg of dried weight of herb per 1 ml of culture solution. The supernatant was recovered and induced rGH level was evaluated by RIA method. Its major components - glycyrrhizin, glycyrrhetic acid, isoliquiritigenin, formononetin, liquiritigenin, liquiritigenic acid, and glabrolide which were isolated and purified from GR - were tested in 10 μ g/ml following above methods. In results, the herbal extract increased rGH level up to 2.87 ± 0.7 fold ($p < 0.05$) comparing to that of basal level and