

【P-62】

Panax Ginseng Extracts Promote Excretion of TCDD in RatsChul-Won Lee¹, Hak-Seob Lim¹ and Ja-Young Moon^{1,2}¹*Institute of Genetic Engineering, Changwon National University, Changwon 641-773, and*²*Department of Biochemistry and Health Sciences, College of Natural Sciences, Changwon National University, Changwon 641-773, Korea*

2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) is the most potent member of a large family of dioxin-like compounds that are ubiquitous environmental contaminants. By screening the presence of TCDD in the excrements using H4IIIE-luc bioassay, we investigated the effects of Panax ginseng extracts on the excretion of TCDD in Sprague Dawley rats administered TCDD. For this study, 120 male Sprague Dawley rats weighing 190-210 g each (8 week old) were divided into four groups: Control group, TCDD administered group, ginseng extracts administered group, co-administered group with TCDD and ginseng extracts. Panax ginseng extracts were intraperitoneally administered to rats at 100 mg/kg/every other day for 1-month period after single intraperitoneal dose of 25 mg of TCDD/kg body weight. In serum and adipose tissue of rats co-administered with TCDD and ginseng extracts, the %-TCDD-Max. value was 2.3-fold and 1.47-fold lower than in those of TCDD alone administered group on 2 days after treatment, respectively. In urine of the rats co-administered, the %-TCDD-Max. value was 2.98-fold higher than in the TCDD alone administered group on 1 day after treatment. The %-TCDD-Max. value in feces of the rats co-administered was 1.25-fold and 1.44-fold higher than those in TCDD alone administered group on 1 day and 2 days after treatment, respectively. These results suggest that Panax ginseng extracts have promotional effect of TCDD excretion through the feces on 1 day and 2 days after exposure to TCDD. The excretory amount of TCDD through the feces was remarkably higher than that through the urine during 1-2 days. These findings suggest that the administration of Panax ginseng extracts may be useful in preventing in gastrointestinal absorption of TCDD and in promoting the excretion of the compound already absorbed into tissues. Moreover, these findings suggest that Panax ginseng might be useful in the treatment of humans exposed to TCDD. [Supported by a grant from the Korea Research Foundation (KRF2003-005-I00075)]

Keyword: Panax ginseng; Serum; Adipose tissue; Urine; Feces; TCDD; H4IIIE-luc bioassay