

감초 신품종 추출물의 유전독성 평가

송영재^{1†}, 김동구^{1†}, 이정훈^{2†}, 김원남³, 안효진⁴, 이종현⁵, 장재기⁶, 강사행¹, 전용덕⁷,
진종식^{1*}

¹전북대학교 환경생명자원대학 한약자원학과, ²농촌진흥청 국립원예특작과학원 약용작물과,
³Cnh 암의학연구소, ⁴상지대학교 한의과대학 약리학교실, ⁵동덕여자대학교 약학대학 약학과,
⁶농촌진흥청 국립식량과학원 작물재배생리과, ⁷우석대학교 약학대학 한약학과

Genotoxicity Evaluation of the *Glycyrrhiza* New Variety extract

Young-Jae Song^{1†}, Dong-Gu Kim^{1†}, Jeonghoon Lee^{2†}, Wonnam Kim³, Hyo-Jin An⁴,
Jong-Hyun Lee⁵, Jaeki Chang⁶, Sa-Haeng Kang¹, Yong-Deok Jeon⁷ and Jong-Sik Jin^{1*}

¹Department of Oriental Medicine Resources, Jeonbuk National University, Korea

²Herbal Crop Research Division, NIHHS, RDA, Korea

³Cnh Center for Cancer Research, Korea

⁴Department of Pharmacology, College of Korean Medicine, Sangji University, Korea

⁵Department of Pharmacy, College of Pharmacy, Dongduk Women's University, Korea

⁶Crop Production & Physiology Division, NICS, RDA, Korea

⁷Department of Korean Pharmacy, College of Pharmacy, Woosuk University, Korea

The genus *Glycyrrhiza* (Licorice) has been used as an oriental herbal medicine for a long time in Asian countries. Wongam (WG), which is *Glycyrrhiza* new variety, have been developed to improve limitation of licorice including low productivity, environmental restriction and insufficient components by Korea Rural Development Administration. To using WG as a herbal medicine, it is important to reveal the adverse effects in health. In this study, we evaluated the genotoxicity test of WG extract through *in vitro* bacterial reverse mutation (AMES) assay, *in vitro* chromosomal aberration assay and *in vivo* mouse bone marrow micronucleus assay. When compared with the control, WG extract with or without the S9 mix showed no genotoxicity in the AMES assay up to 5000 µg/plate and in the chromosomal aberration assay up to 1100 µg/ml. In micronucleus assay, no significant increase in the number of micronucleated polychromatic erythrocytes or in the mean ratio of polychromatic to total erythrocytes up to 5000 mg/kg/day for 2 days. The present study demonstrated that WG extract is safe and reliable herbal medicine since no detectable genotoxic effects at least under the conditions of this study.

Key words: *Glycyrrhiza*, Wongam, Genotoxicity, Bacterial reverse mutation assay, Chromosomal aberration assay, Micronucleus assay

[This work was carried out with the support of “Cooperative Research Program for Agriculture Science and Technology Development (Project No. PJ01424602)” Rural Development Administration, Republic of Korea.]

*(Corresponding author) jongsik.jin@jbnu.ac.kr, Tel: +82-63-850-0744

† These authors equally contributed to this study.