

[P-5]**Incidence of Micronuclei in Lymphocytes of Pig in the High Background Radiation Area (Goesan-gun)**Sung-Ho Kim¹, Se-Ra Kim¹, Hae-June Lee¹, Chang-Mo Kang²,Jong-Choon Kim¹, Ill-Hwa Kim³ and Sung-Kee Jo⁴*¹College of Veterinary Medicine, Chonnam National University, ²Korea Institute of Radiological & Medical Science ³College of Veterinary Medicine, Chungbuk National University and ⁴Food Irradiation Team, Korea Atomic Energy Research Institute, Korea*

Cytogenetic and hematological analysis was performed in peripheral blood of pig in the high background radiation area (HBRA) (Goesan-gun) and control area. The frequency of micronuclei (MN) in peripheral blood lymphocytes from pig was used as a biomarker of radiobiological effects resulting from exposure to environmental radiation. An estimated dose of radiation was calculated by a best fitting linear-quadratic model based on the radiation-induced MN formation from the swine lymphocytes exposed in vitro to radiation over the range from 0 Gy to 4 Gy. When analysed by linear-quadratic model the line of best fit was $y = 0.0102D^2 + 0.0250D + 0.011$ [y = number of MN/cytokinesis-blocked (CB) cells and D = irradiation dose in Gy]. MN rates per 1,000 CB lymphocytes of pig from HBRA and control area were 9.20 ± 3.88 and 11.00 ± 2.98 , respectively. There were no significant differences in MN frequencies and hematological values in pig between HBRA and control area.

Keyword: Micronuclei, Pig, Lymphocyte, High background radiation area