G733

**Genetic Analysis of Ancient DNA of Wild Boar Excavated from Archaeological Sites, Jeju, Korea**

Jae-Hwan Kim[P], Sang-Hyun Han[1], Ju-Hyung Oh[1],You-Sung Oh[1], Ji-Hoon Song[1], Min-Chul Kang[1], Yong-Hwan Jung[2], Moon-You Oh[C]

*[PC1]Department of Life Science, Cheju National University, Jeju 690-756; [2]National Jeju Agricultural Experiment Station, Rural Development Administration, Jeju 690-150*

We studied on the ancient animal remains excavated from the archaeological sites in Jeju, Korea. Ancient DNA was extracted from the teeth of *Sus scrofa* specimems excavated from Kumsung (about A.D. 0) and Kwakji (A.D. 800-900) archaeological sites, respectively. We amplified and determined the nucleotide sequences of the 334 base pairs of mitochondrial DNA control region using PCR amplification and DNA sequencing. The sequences of ancient DNAs were analyzed phylogenetically with previously reported sequences of pig breeds that retrieved from the GenBank database. The neighbor-joining and maximum likehood trees showed two clusters; Asian pigs and European pigs. Kumsung specimen belonged to Asian, and Kwakji specimen did to European. This result shows that the two genetic lineages of *S. scrofa* had existed in this island at that time.

G734

**Expression of p53 and Induction of Apoptosis in a Colon Cancer Cell Line**

Tae-Jin Kim[P], Jung-Hwa Ko[1], Mi-Seon Shin[1], Myeong-Seon Lee[C]

*Department of Genetic Engineering, Chongju University, Chongju 360-764*

The p53 tumor suppressor gene is inactivated in the majority of human cancers. p53 is mediates either apoptosis or cell cycle arrest in response DNA damage. The aim of this study was to determine whether apoptosis is dependent on the p53 induction in human colon cancer cell(HCT116), also anticancer drugs and antioxidants are correlated with expression of p53 and induction of apoptosis. The results of cell viability, electrophoretic analysis of total cellular DNA, morphological changes demonstrate apoptosis induced by-cisplatin(CDDP) and doxorubicin(DXR). Western blot analysis showed that p53 protein level was markedly induced in HCT116 after anticancer drugs, CDDP and DXR treatment. Therefore, induction of apoptosis was associated with expression of p53. Vitamin C(VC)enhanced the cytotoxic effect of anticancer drugs and induced upregulation of p53. These results suggest that enhanced p53 expression by VC may have therapeutic application in increasing the efficiency of chemotherapy in colon cancers.

G735

**Diversity and Genetic Differentiation among Seven Species of Bamboo**

Song Jin Lee[P], Hong Wook Huh[1], Sung Gi Moon[2], Man Kyu Huh[C]

*[P]Department of Biology, Pusan National University, Pusan 609-735; [1]Department of Biology Education, Pusan National University, Pusan 609-735; [2]Department of Biology, Kyungsung University, Busan 608-736; [C]Department of Molecular Biology, Dongeui University, Busan 614-714*

The phylogenetic relationships among seven bamboo species were investigated at the population level by constructing tree based on RAPD markers. RAPD analysis was also conducted to estimate genetic diversity and population structure of bamboo species. Shannon's information index of diversity Ho was 0.000, 0.035, 0.126, 0.065, 0.065, 0.028 and 0.079 on average for *Phyllostachys nigra* var. *henonis*, unknown wild bamboo (Gugap bamboo), *Phyllostachys bambusoides*, unknown wild bamboo (Gongzak bamboo), *Phyllostachys pubescens*, *Phyllostachys nigra* and *Sasa japonica*, respectively. RAPD markers were more effective in classifying of Bamboo in Korea. Genetic identity values among pairs of species ranged from 0.421 to 0.797.

G736

**Heterozygous A1298C Mutation in the MTHFR Gene as an Independent Risk Factor for Ischemic Stroke**

Dong Jin Yim[P], Sun Hee Kim[1], Jin Hee Han[1], Ok Jun Kim[2], Byung Ok Choi[2], Jin Kyeoung Kim[3], Doyeun Oh[1], Seung Ho Hong[4], Nam Keun Kim[C]

*[PC1]Institute for Clinical Research, College of Medicine, Pochon CHA University, Sungnam 463-712; [2]Department of Neurology, College of Medicine, Pochon CHA University, Sungnam 463-712; [3]Graduate School of Life Science and Biotechnology, Pochon CHA University, Sungnam 463-712; [4]Department of Science Education, Jeju National University of Education, Jeju 690-061*

Agenetic aberration in the methylenetetrahydrofolate reductase (MTHFR) gene has been shown to result in reduced MTHFR enzyme activity. However, studies examining the association between the common C677T MTHFR polymorphism and ischemic stroke are still controversial. Recently, a second genetic polymorphism in MTHFR at position 1298 has been reported. Therefore, we examined to determine whether the MTHFR C677T and A1298C gene polymorphisms were associated with ischemic stroke. We enrolled 149 ischemic stroke patients and 137 healthy individuals and checked their fasting plasma homocysteine levels and analyzed the C677T and A1298C polymorphisms in the MTHFR gene. For the multivariate analysis, we used logistic regression to adjust for age, sex, hypertension, diabetes mellitus, and smoking. We found that heterozygous A1298C mutation in the MTHFR gene is an independent risk factor for ischemic stroke. Our findings suggest the basis of prediction and prevention of ischemic stroke by analyzing genetic defect and lowering homocysteine level.