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Characterization of Single Nucleotide Polymorphisms in Fatty-acid Binding Protein (*FABP4*) Gene from Swines (*Sus scrofa*)

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From the 4th chromosome of swine, we found 8 single nucleotide polymorphisms (SNPs) in adipocyte fatty acid bonding protein(FABP4) gene as candidate gene of FAT1 locus. Many studies have shown that the FABP4 gene has critical effects on obesity and growth, and its effects have been demonstrated through experiments even with a variety of crossing hybrids including different breeds. We researched SNPs in 4 kinds of Korean commercial swine, i.e. Duroc, Landrace, Yorkshire and Berkshire, and came to findings on SNPs involved in many traits like daily gain, feed conversion ratio, backfat thickness and lean percentage. It is expected that FABP4 gene will be useful as a DNA marker to characterize major economic traits for Korean swine.

Key words: Economic traits, swine, SNP Detection, PCR-RFLP, polymorphism

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Residual Consistency and Risk Assessment of Polychlorinated Biphenyls and Organochlorine Pesticides from Biota in the West Nakdong River

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This study was performed to estimate risk and accumulation level of PCBs (polychlorinated biphenyl) and OCPs (organochlorine pesticides) into fishes and shellfishes collected in western nakdong river. From the analytical results, we could find out that the residual level for OCs into the muscular tissues of fishes was detected to \sum DDTs 1.90~11.98 ng/g wet wt> \sum PCBs 0.84~5.46 ng/g>HCHs 1.43~7.33 ng/g>HCB 0.02~0.33 ng/g. There were mainly kinds of DDT compounds known as OCPs. In the case of shellfishes, PCB compounds detected the range of 1.82 to 2.54 ng/g, the highest concentration values among target analytical compounds. The accumulation pattern for OCs and their congeners into the fishes was obviously depended upon their feeding preference. The residual concentrations for OCPs, PCBs and their congeners into the carnivorous fishes such as blackbass, bluegill and skygarger detected high, but their concentrations were low in the herbivorous fishes. Therefore, it was probable that its residual characteristics be related to their specific habitats and feeding habits. For the residual level for OCs into fishes and shellfishes in the western nakdong river, the level of \sum PCBs was higher than that of the developing countries, but was lower than that of the developed countries, but \sum DDTs appeared adverse phenomena in comparison with \sum PCBs. \sum PCBs and \sum DDTs residual levels into fishes was not over the POPs action level that suggested by USEPA (1995, 2000) and Environment Canada (2002). Their values into shellfishes was lower than that of the action limit levels, 5 mg/kg ww, 2 mg/kg ww by FDA (Food and Drug Administration).

Key words: PCBs, OCPs, fish, shellfish, west Nakdong River