F808 Mitochondrial DNA D-loop sequences variation and evolution of Korean cattle, Hanwoo

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The origin of North East Asian domesticated cattle are unclear. We only guess that around the second century A.D., cattle migrated from North China via the Korean peninsula to Japan. Korean cattle, Hanwoo, which is less influenced by other breeds. So we can find the exact relationship between Korean cattle, Hanwoo, and others - European, African, Indian, and Japanese cattle by investigating 'Hanwoo'. Through this study, we can also give a biological evidence of cultural migration from Korea to anywhere. We use mitochondrial DNA D-loop region (approximate size is 910bp) for phylogenic analysis according to the previous studies that little or no primary sequence homology is apparent in that region and which contains the promoters and the origin of heavy-strand DNA replication. So, we isolated mitochondrial DNA from Hanwoo liver tissue in each Korea area (Inchon, Youngju, Jungeup, Chungwon, Ichon, Youjoo, and Jaejoo) and amplified the D-loop region, using PCR with primers, located near the D-loop region, proline tRNA and 12s rRNA. After cloning of the PCR product (approximate size is 1.59kb) and partial sequencing of 2 area samples, we are trying to do phylogenic analysis.

F809 Studies on the Gene Expression Using Fibroin Gene Promoter in *Bombyx mori*

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The silkworm represents an model for studies on transgenic animals because of its well-known genetics and the relatively large size of embryos and its potential for biotechnological use. The fibroin genes consist of Fib-L and Fib-H, which have strong promoter in *Bombyx mori*. In this study, to investigate the gene expression using fibroin gene promoter, the fibroin promoter region was determined by DNA sequencing. And to develop the new expression vector system for foreign gene we did to construct the expression vector using fibroin gene promoter and P transposon vector containing luciferase or GFP or LacZ as reporter genes. The Expression vector activities were analyzed with microjectile bombardment and microinjection. In microjectile bombardment, we used Gene Gun to deliver the expression vector to the 5th instar larvae and did microinject into the eggs. We got the transgenic silkworms(F1) that were analyzed with PCR and mating. We are expecting transgenic F2 silkworm. The studies on the gene expression using fibroin gene promoter may help to understand mechanisms in fibroin genes, i.e. transcriptional regulation, or many advantages to produce useful biological materials in the near future.