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### Change of Organic Acid Amounts in *Phellinus* mycelia-fermented Alcoholic Beverage over Two-Month Period

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Mushrooms have been a favorite part of human diet around world. In Asia, mushrooms have been also valued as medical resources for traditional medicines. Genera *Phellinus* are perennial fungi that are selectively parasitic on *Morus rubra* (Mulberry tree). We have been developed liquid culture technique for *Phellinus* mycelia and successfully produced alcoholic beverage. Since it has been reported that Genera *Phellinus* are known as an ingredient of Chinese medicines, Souou and have been studied for pharmacological effects against tumor we were interested in medical and nutritional compounds in the *Phellinus* mycelia-fermented alcoholic liquid. In the previous study, several organic acids were identified and four of them were quantified. Using High-Performance Liquid Chromatography technique we now report amount changes of identified organic compounds in the *Phellinus* mycelia-fermented alcoholic liquid after 2 month storage at 4°C and 25°C. Amounts of lactic acid and citric acid increased to 188% and 374%, respectively, after 2 month storage at 25°C while amounts of lactic acid in the 4°C samples decreased by 23% at 2 month storage.

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### *Drosophila ANT* is a novel target gene of the DRE/DREF, a key regulatory system of cell proliferation-related gene

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Mitochondria are essential for maintaining cell life but they also play a role in regulating cell death, which occurs when their membranes become permeabilized. Mitochondria possess two distinct membrane systems including an outer membrane in close communication with the cytosol and an inner membrane involved in energy transduction. Adenine nucleotide translocase (ANT) constitutes the most abundant protein in the mitochondrial inner membrane. It is a key component in maintaining cellular energy homeostasis and in formation of the mitochondrial permeability transition pore. In this study, we have identified three DNA replication-related elements (DRE 5'-TATCGATA) in the 5' flanking region of the *Drosophila ANT* (*dANT*) gene. Gel-mobility shift analysis reveals that all of the three DREs are recognized by the DRE-binding factor (DREF). Site-directed mutagenesis of these DRE sites results in a considerable reduction in *dANT* gene promoter activity *in vitro*. Analyses with transgenic flies carrying a *dANT-lacZ* fusion gene bearing wild-type or mutant DRE sites indicate that the DRE sites are required for *dANT* expression *in vivo*. We showed that overexpression or knockdown of DREF by GAL4-UAS system regulate *dANT* promoter activity. In addition, we observed collapse of the mitochondrial membrane potential in the eye imaginal disc overexpressing DREF. These results indicate that DRE/DREF is a key regulator of *Drosophila ANT* gene expression and suggest the possibility of cross-talk between the DRE/DREF system and the mitochondrial function.