

E111**Metabolic Function and Mechanical Power of Pectoral Muscle:
A Comparative Study on Mice and Bats**

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Among different muscle fiber types, red fibers obtain energy through aerobic metabolic pathway while white fibers utilize anaerobic pathway as the energy source. It is known that red fibers contract more slowly than white fibers although both types may generate a similar tetanic force. Composition of these fiber types varies among animals even for same muscles (e.g., pectoral muscle) because of variation in their locomotory activities. We determine proportions of red fibers in sections of the pectoral muscle using NADH diaphorase method as well as mechanical power (= force x shortening velocity) of the muscles from mice and 'summer' bats. We test a hypothesis that muscle power is negatively correlated with proportion of red fibers in the pectoral muscle. This study will be extended for comparisons between mice and 'winter' bats as well as between summer and winter bats to see how metabolic and contractile function of the muscle is affected by hibernation.

E112**Bile Acid-Induced Apoptosis in HL-60 leukemia cells**

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Apoptosis is a distinct mode of cell death that is responsible for deletion of cells in normal tissues; it also occurs in specific pathologic contexts. HL-60 (peripheral blood leukocytes) from an adult female with acute promyelocytic leukaemia have gross rearrangements of the p53 gene with mutational inactivation of p53. We investigated that lithocholic acid (LCA) and ursodeoxycholic acid (UDCA), components of bile acid, induced apoptosis in HL-60 cells. Morphologically, LCA and UDCA induced rapid condensation and budding of the cell, with the formation of membrane-enclosed apoptotic bodies when the cells was stained by haematoxylin and eosin. The growth of HL-60 cells was reduced in proportion to treatment time and molar concentration by trypan blue staining. However, the degree of DNA fragmentation was increased in proportion to treatment time and molar concentration. On the other hand, the expression of c-myc was down-regulated after one day treatment of LCA. In case of bcl-2, there was no change of the expression after treatment of LCA.