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| Author(s)        | TATEYAMA, Kazue   |
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## LACTATE DEHYDROGENASE AND CREATINE PHOSPHOKINASE ISOZYMES IN TISSUES AND SERA OF EXPERIMENTAL ANIMALS

Kazue TATEYAMA

*Veterinary Hospital*

*Faculty of Veterinary Medicine*

*Hokkaido University, Sapporo 060, Japan*

An examination was performed to clarify the lactate dehydrogenase (LDH) and creatine phosphokinase (CPK) isozymes in the tissues and sera of experimental animals: mouse, rat, guinea pig, hamster and Mongolian gerbil. LDH and CPK isozymes were separated by polyacrylamide disk gel electrophoresis. The tissues obtained were as follows: liver, pancreas, stomach, duodenum, small intestine, cecum, large intestine, heart, musculus biceps femoris, musculus masseter, muscoli abdominis, uterus, renal cortex, renal medulla, spleen, lymphonodi mandibulares, lymphonodi mesenterici, submandibular gland, cerebrum, spinal cord and erythrocyte.

1. In tissues of the mouse, LDH isozyme showed five bands. Most tissues predominantly had LDH4 and LDH5 isozymes. LDH1 and LDH2 were the main isozymes only in the spinal cord. In the rat, LDH isozyme was separated into four fractions, and LDH4 and LDH5 showed monobands. In most tissues, LDH4 and 5 was the predominant isozyme fraction. Spinal cord, renal cortex and heart had mainly LDH1, LDH2 and LDH3. In the guinea pig, LDH2, LDH3 and LDH4 were the main isozymes in many tissues. In the hamster, LDH1 and LDH2 isozymes were predominant in heart, spinal cord, stomach, renal cortex and cerebrum, while LDH4 and LDH5 were the main isozymes in other tissues. In some tissues of Mongolian gerbil, an extra band appeared between LDH3 and LDH4.

2. In tissues of the mouse, CPK isozyme showed three bands: BB, MB, MM. Some tissues had BB and MB isozymes and others had MB and MM isozymes. The percentage of MB isozyme was higher than in other animals in many tissues. In the rat, most of the tissues had BB and MM isozymes, but MB isozyme only appeared in heart, stomach, small intestine and uterus. The isozyme patterns of the main tissues of the guinea pig and Mongolian gerbil were similar to that of the rat. In tissues of the hamster, the MM fraction was separated in two fractions, MM1 and MM2.

3. In the serum of the mouse and the rat, LDH4 and LDH5 were the predominant fractions. In the guinea pig and the hamster, LDH1 and LDH2 were the main isozymes. In the Mongolian gerbil, LDH2 and LDH5 were the main isozymes.

4. In the serum CPK of the mouse, MM and MB were the main isozymes. The CPK isozyme patterns of rat serum were separated into three types. In the serum of the guinea pig, hamster and Mongolian gerbil, MM was the predominant isozyme.