

## **Yeast Stimulation of Bone Marrow Mitosis in the Soft-Shelled Turtle, *Pelodiscus sinensis* Crother for Cytogenetic Investigations**

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### **Introduction**

The soft-shelled turtle, *Pelodiscus* (= *Trionyx*) *sinensis* Crother, 2000 is considered to be a nutritious food for human consumption and commercially important aquaculture species due to high demand in Asia including Korea, China and Japan. In the recent years, farming technique of this species has been rapidly developed in the southern part of Korea (Park et al., 2004). We describe herein a new technical method to obtain an increase rate of mitotic division in the hemopoietic tissue of soft-shelled turtle induced through the body-injection of active yeast.

### **Materials and Methods**

Control group which received neither yeast nor dextrose solution. Sham control group received dextrose solution only at 1, 2, 3 and 4 h and experimental group received the yeast treatment, as previously described at 1, 2, 3 and 4 h. The direct preparations of chromosomes from the bone marrow using the methods of Park et al. (1999, 2003). The mitotic rate per three thousand nucleus without erythrocytes in each prepared microscopic slide was calculated by the microscopic observations.

## Results and Conclusions

It becomes evident that there is no significant difference in the case of a control group and a sham control group, and that the mitotic rate increased in the tissue of the experimental group received an active yeast.

After two days after yeast injections, the mean mitotic index was 1.85%, or 18.5 times higher than the mean of the equivalent sham control group. After three days after active yeast injections, the mean mitotic index had risen to 2.85%, or 9.8 times higher than the equivalent sham control group. After four days after active yeast injections, the mean mitotic index had decrease to 2.34% compared to that of three days after active yeast injection, however 13 thimes higher than the equivalent sham control group.

The basis for increased mitotic activity and fragility of the cell membrane by active yeast stimulation in the soft-shelled turtle is not understood. The increase in number of hematopoietic in the soft-shelled turtle would be cause by an immunological stimulation. For the definte conclusion for this mechanism, further studies are required with sufficient materials.

## References

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