

## **C H A P T E R - V I I**

### **CONCLUDING REMARKS**

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## C O N C L U D I N G   R E M A R K S

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As the thesis is being concluded author is well aware of the fact that the studies in this field are no way complete, but it can be stated that the ovaries of Rana cyanophlyctis in prebreeding conditions contain three species of acid phosphatase acting at pHs 3.7, 4.4 and 5.0. They differ in their response to divalent metallic ions as expressed by enzyme activities. Enzyme I and II are activated by  $Mg^{++}$  and  $Mn^{++}$ . Enzyme II and III are activated by  $Mn^{++}$ . Enzyme I and III are activated by  $Cu^{++}$ . Enzyme I is activated by citrate and glycerol. All the three enzymes are hysteretic in their nature and thermal activated. Enzyme II and III are specifically inhibited by citrate though are not influenced by glycerol. All the three enzymes are totally inhibited by 1% formalin, 1% methanol, 1% ethanol, 1% acetone, 1% Triton X-100 and Sodium fluoride.

From the thermostability studies of the three enzymes it is revealed that the three enzymes are thermal activated. Thermal activation of Enzyme II is function of time upto 20 minutes of preincubation at  $60^{\circ}C$ . While thermal activation of Enzyme I and III results into bursts of activities at 20 minutes

of preincubation at 60°C.

Thus all the three enzymes share some characters while some characters are specific to them. Enzyme I can be described as  $Mg^{++}$ ,  $Mn^{++}$ ,  $Cu^{++}$ , citrate and glycerol activated enzyme acting at pH 3.7. Enzyme II is  $Mg^{++}$ ,  $Mn^{++}$  activated and  $Ca^{++}$  and citrate sensitive enzyme acting at pH 4.4. Enzyme III can be described as  $Mn^{++}$ ,  $Cu^{++}$  activated and  $Ca^{++}$  and citrate sensitive acid phosphatase acting at pH 5.00. All the enzymes are thermal activated.

In the future it is proposed to study the separation of enzymes on the appropriate column and electrophoretic methods, so that they can be studied on the basis of their molecular weights/charges. It is also proposed to study the enzymes to study their regulatory Mechanisms and the functional links with the development, maturation and regression of oocytes.

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