NON PROTEIN ENZYMES :

Till 1983 it had been accepted that all enzymes are proteins or the protein part of the enzymes is actually functional as enzyme. However, Altman et al 1983 showed that ribonuclease-P which cleaves precursor t-RNA to give t-RNA has enzymic property in the, RNA component, present in the enzyme molecule and not in the protein portion of the enzyme. The RNA of ribonuclease -P obeyed Michaelis Menten Kinetics.

SUMMARY:

CLINICAL APPLICATION OF ENZYMES :

Trypsin has proved to be of value in the treatment of several clinical conditions. The purified enzymes have been administered parenterally, orally and intramuscularly. In the treatment of acute thrombopleitis (a blood clot and inflammation in a vein) small recurrent intramuscular injection have been benficial in many patients. The effect is not through enzymatic dissolution of the clot but appears to be related to amelio ration of the inflammatory process. Some types of ulcers have responded well to trypsin therapy as have some specific traummatic injuries, such as boxers black eye and a number of other injuries to athletes and others. The enzymes has been used experimentally in a variety of conditions, including refractory wounds, infections, some specific gastro intestinal disorders, carcinoma, and rheumatic diseases. Varying degrees f benefit have been reported but in some instances were not confirmed by other workers.

Streptokinase is a bacterial enzyme obtained princitally from β-haemolytic streptococci. Plasminogen is the term given to the inactive form of blood protease enzyme. In some way streptokinase activates plasminogen to

form an active proteas called plasmin. The mechanism of this activation apprently involves another molecule in blood, a proactivator found to be a second factor in human plasminogen preparation. The work of Sherry and co-workers indicates that human plasminogen is activated in two steps (a) the conversion in stoichiometric manner of the practivator by strepto kinase to a plasminogen activator and (b) the enzymatic reactions of this activator with plsaminogen to form the proteolytic enzyme plasmin. Plasmin has a lytic effect on blood clots through, its fibrinolytic action. On this basis streptokinase has been used therapeutically in attempts to remove clots. It has been administered intravenously, intarmuscularly and orally Oral adminteration resulted in anti-inflammatory effects in patients apparently on the basis of activation of salivary plasminogen and oral absorption of the resultant plasmin.

Hyaluronic acid and cholinesterase conditions.

In human and other eukaryotes the activity of many enzyme is regulated by co-valent modification. Most commonly by ATP depandant pnosphorylation, with subsequent hydrolytic remeoval of phosphate as inorganic or orthophosphate. Selective phoshorylation, most commonly of specific SERINE or TYROSINE residues, and subsequent de-phosphorylation as inorganic phosphate. Selective phosphorylation, most commonly of specific SERINE or TYROSINE residues and subsequent dephosphorylation, are catalyzed by protein kinase and phosphates (converted enzymes). The activity of these converted enzymes are the msel regulated. The target enzymes and its converter enzymes and its converter enzymes thus may form a portion of a regulatory cascade that responds to a signal triggered by a hormone or by a second messenger. Such as CAMP converter enzymes and their targets form

an inter locking regulatory networks a bio-organic computer that can process and integurate complex environmental information to produce an appropriate and comprehensive cellular response.