

BIOL 341  
Enzymes

I Enzymes

as a general rule are proteins

A. Biological catalysts

1. lowers activation energy
2. is unchanged by reaction
3. does not alter the nature of the reaction or the end result

B. Mechanism of action

1. individual conformation

2. active sites

3. substrates

4. lock and key

C. Naming

1. -ase

2. isoenzymes

a. slightly different forms of an enzyme from organ to organ

b. creatine phosphokinase (CPK)

II. Control of Enzymatic Reactions

A. Factors influencing rate

1. temp and pH

2. concentration of cofactors and coenzymes

a. cofactors :

b. coenzymes:

3. substrate and enzyme concentrations

a. saturation

b. reversibility

c. law of mass action

#### B. Metabolic Pathways

1. begin with initial substrate

2. goes through intermediates

3. end with final product

4. branch points

5. end-product inhibition

6. inborn errors

a. each enzyme coded for by specific gene

b. loss or damage to gene will affect enzyme production