Mechanism of Enzyme Action → "CATALYSIS"

PRO-ENZYME
- Pepsinogen → Pepsin
- Trypsinogen → Trypsin
- Chymotrip-sinogen → Chymotrypsin

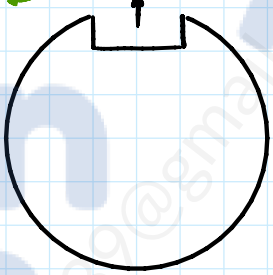
APOENZYME
- Purely Protein
- Holoenzyme – C·F

HOLOENZYME
- Complete Enzyme
- Apoenzyme + C·F

MODELS OF ENZYME ACTION

LOCK & KEY
- Emil Fischer (1894)
- Rigid Site
- Unchangable
- Non-Flexible
- Active Site
- Hand/Glove →

INDUCE FIT
- Non-Rigid
- Changable
- Flexible
- Koshland (1959)



- Non-Regulatory Enzymes
  Sucrase, Maltase
  Urease, Lipases
- Regulatory Enzymes
  Hb (Haemoglobin)

$$E + S \rightarrow ES \rightarrow EP \rightarrow E + P \text{ (Product)}$$

→ Transition States
→ Intermediate States

$$\underset{\text{Initial Substrate}}{A} \xrightarrow{a} B \xrightarrow{b} C \xrightarrow{c} D \xrightarrow{d} E \xrightarrow{e} \underset{\text{Final Product}}{F}$$

↑↑ ATP ⊖ → Phosphofructokinase

- GEOMATRICAL CHANGES (Shape change)
- ENERGY CHANGES (Activation Energy ↓↓)

$$2H_2O_2 \longrightarrow 2H_2O + O_2$$

$\Delta E = 86\ KJ\ mol^{-1}$ (Without catalyst)
$\Delta E = 1\ KJ\ mol^{-1}$ (With catalyst)