

SNS COLLEGE OF PHARMACY AND HEALTH SCIENCES

Affiliated To The Tamil Nadu Dr. MGR Medical University, Chennai
Approved by Pharmacy Council of India, New Delhi. Coimbatore -641035

COURSE NAME : MEDICINAL BIOCHEMISTRY
YEAR : PHARM D /I YEAR
TOPIC : ENZYME INHIBITION

Design Thinking in COENZYME

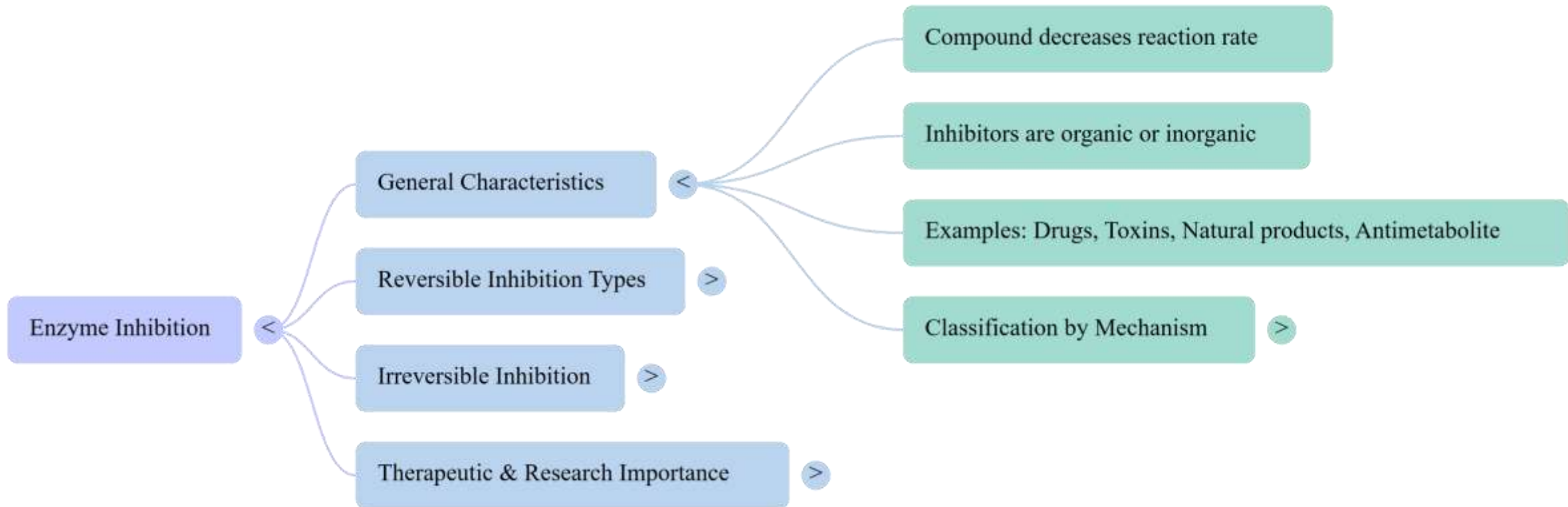
1.Empathize: Deeply understand the student's or learner's challenges, needs, and experiences. This involves engaging with students, educators, and biologists to uncover pain points, preferences, and unmet needs in understanding microscopic cell processes.

2.Define: Reframe the problem based on insights from the empathize phase and establish clear context. This involves synthesizing data to pinpoint the core issue, such as defining the need for clearer explanations of cellular mechanisms.

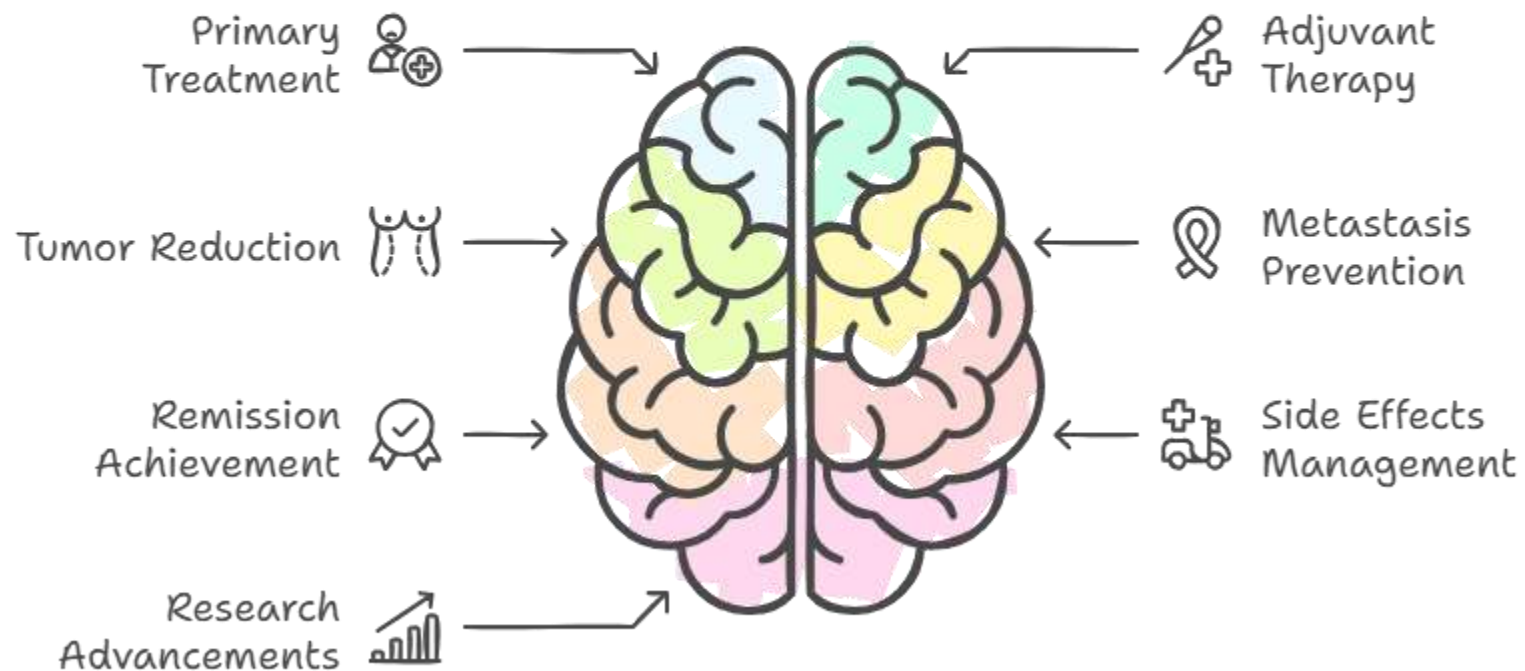
3.Ideate: Brainstorm and explore a wide range of ideas and potential explanations, including innovative diagrams or models.

4.Prototype: Simulate and build educational tools or visuals to enhance comprehension.

MINDMAP

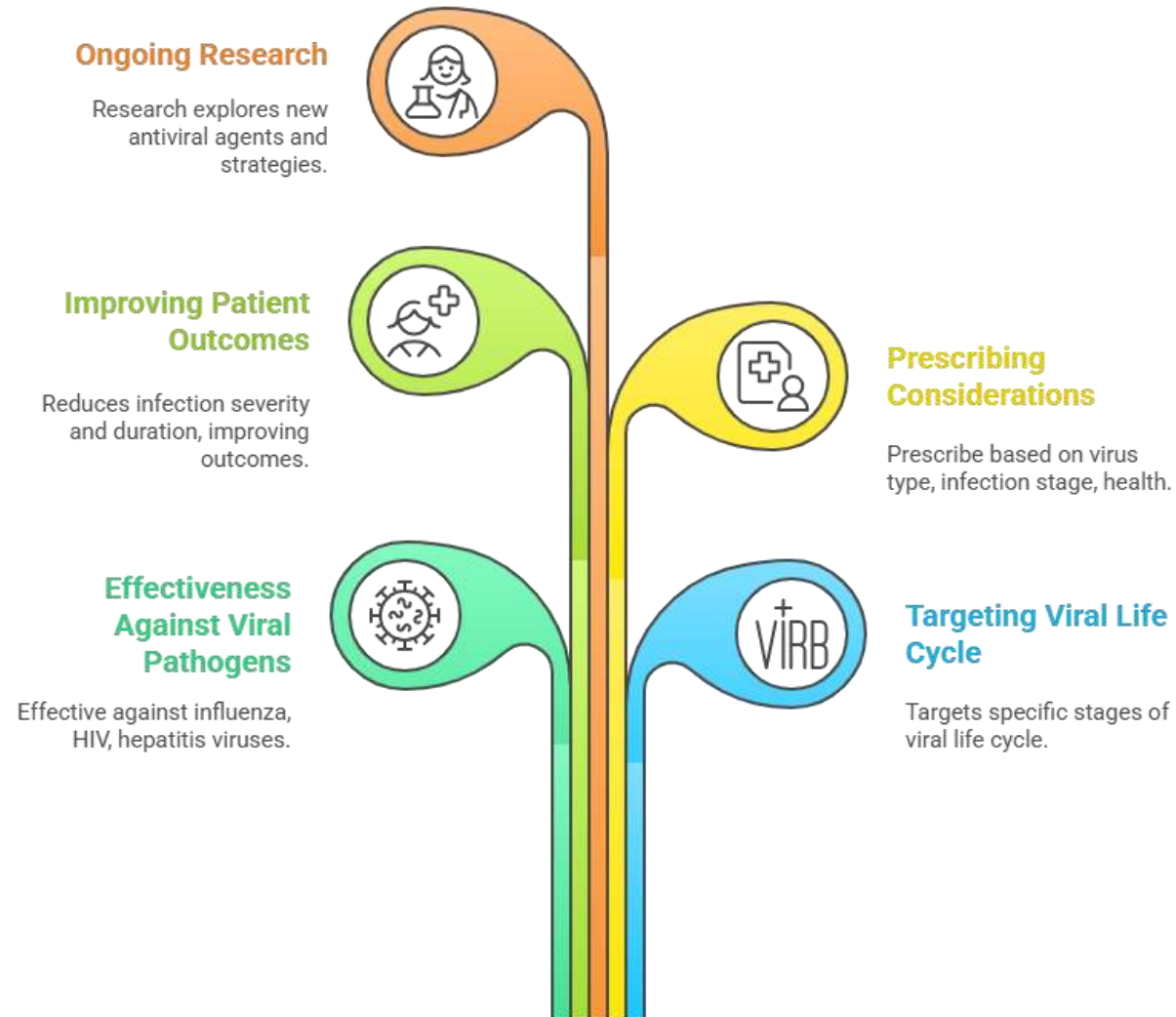


Comprehensive Overview of Cancer Chemotherapy

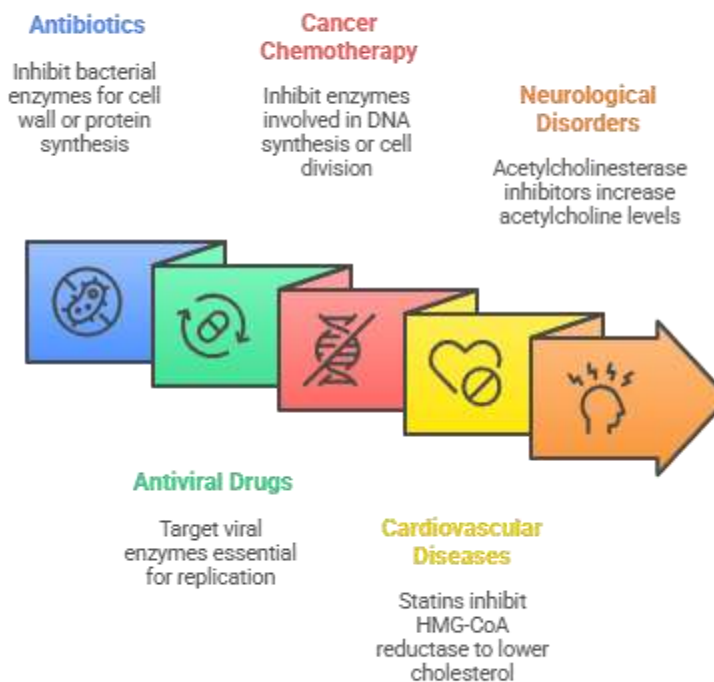


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Unveiling the Multifaceted Role of Antiviral Drugs

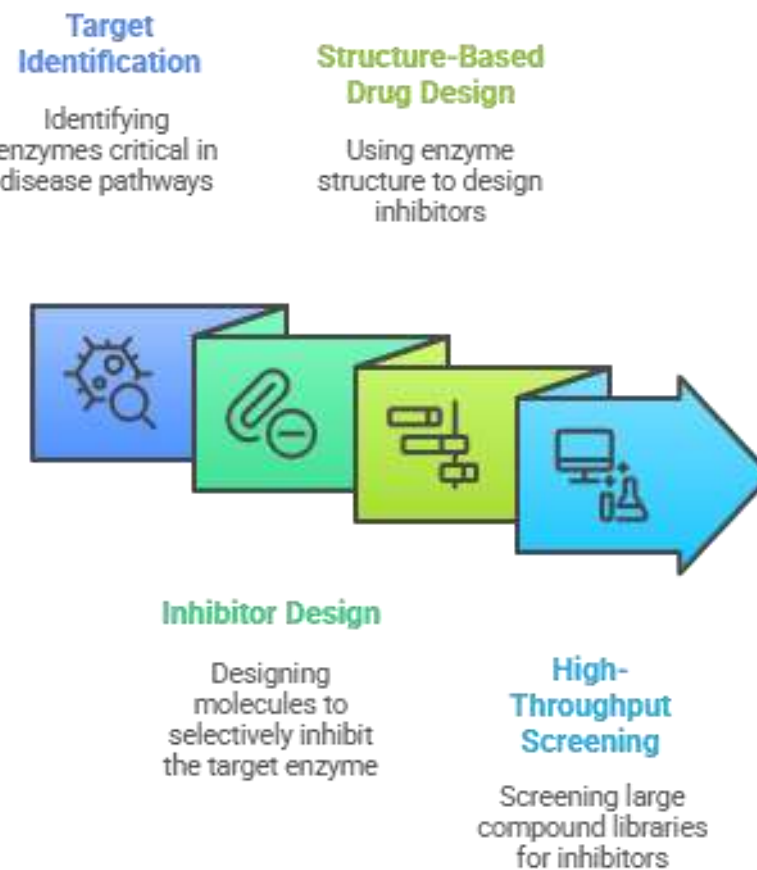


Enzyme Inhibition in Medical Treatments



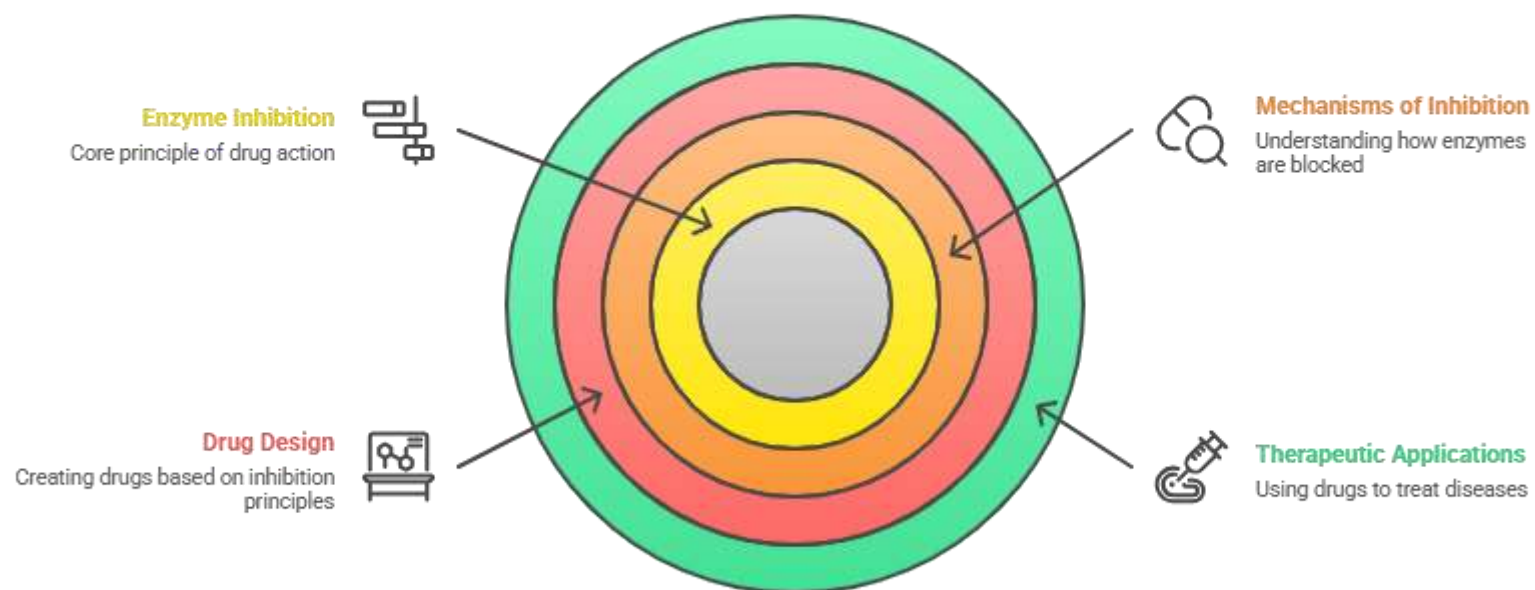
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Drug Design Process



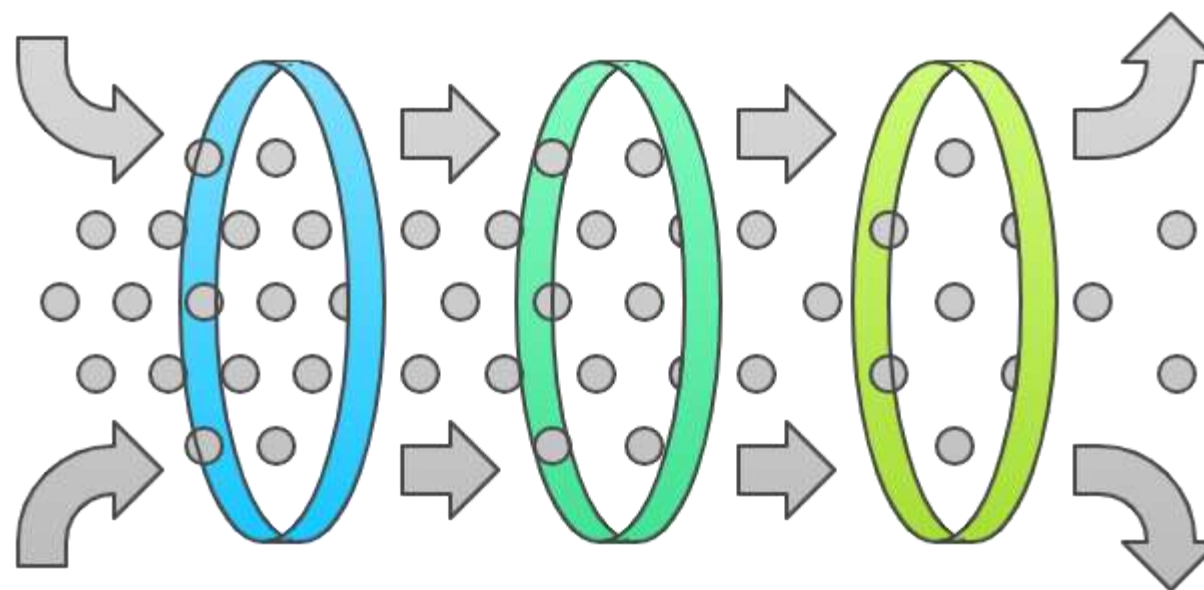
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Enzyme Inhibition in Drug Development



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Irreversible Enzyme Inhibition Process



Covalent Bond Formation

Strong bond forms between enzyme and inhibitor

Stable Complex Formation

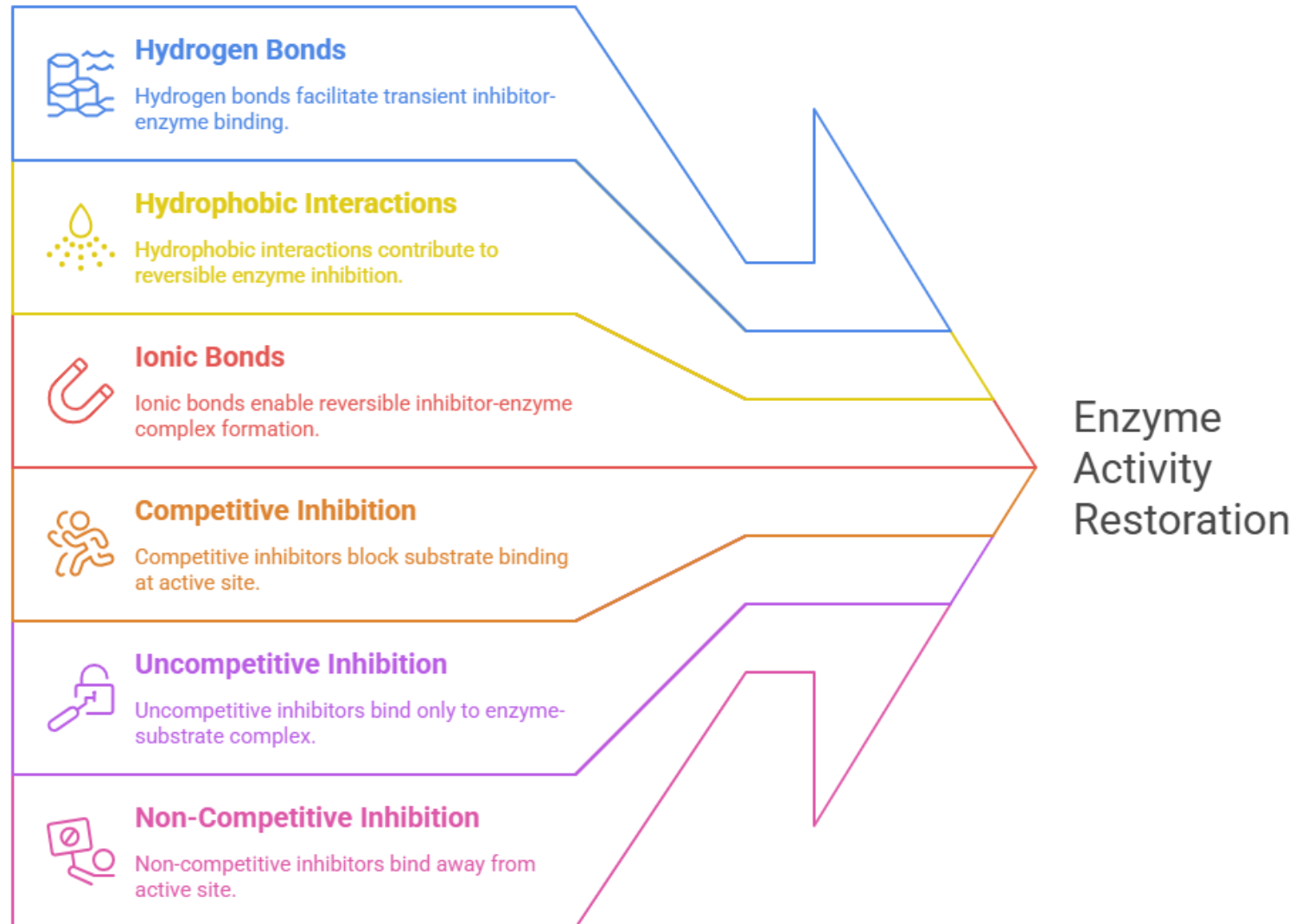
A stable, inactive complex is created

Enzyme Inactivation

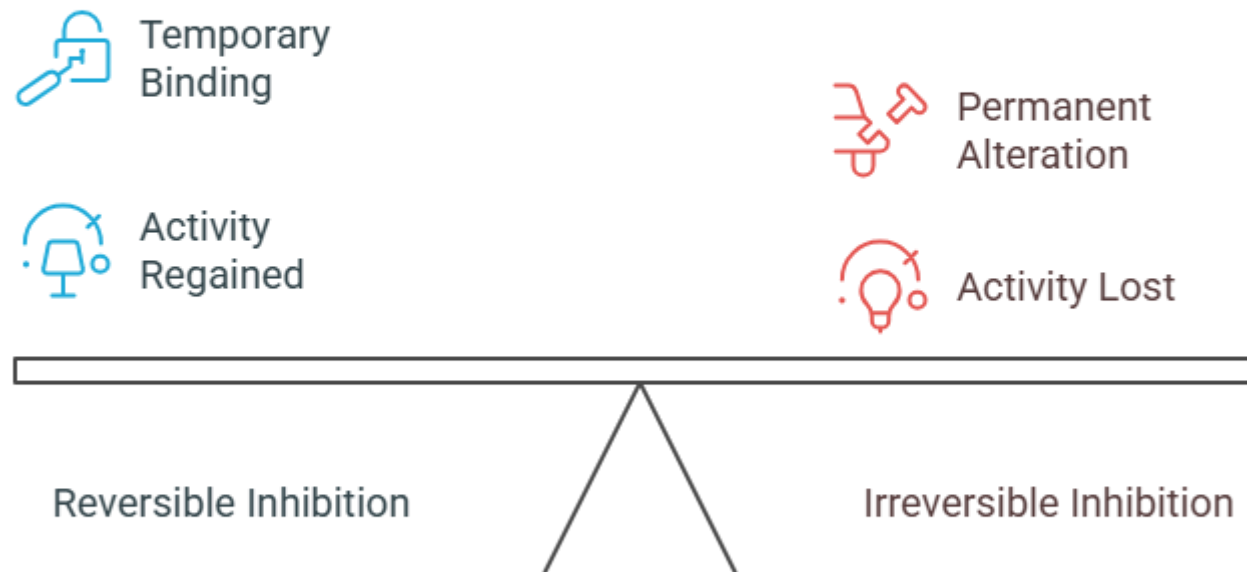
Enzyme loses its activity permanently

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Mechanisms of Reversible Enzyme Inhibition

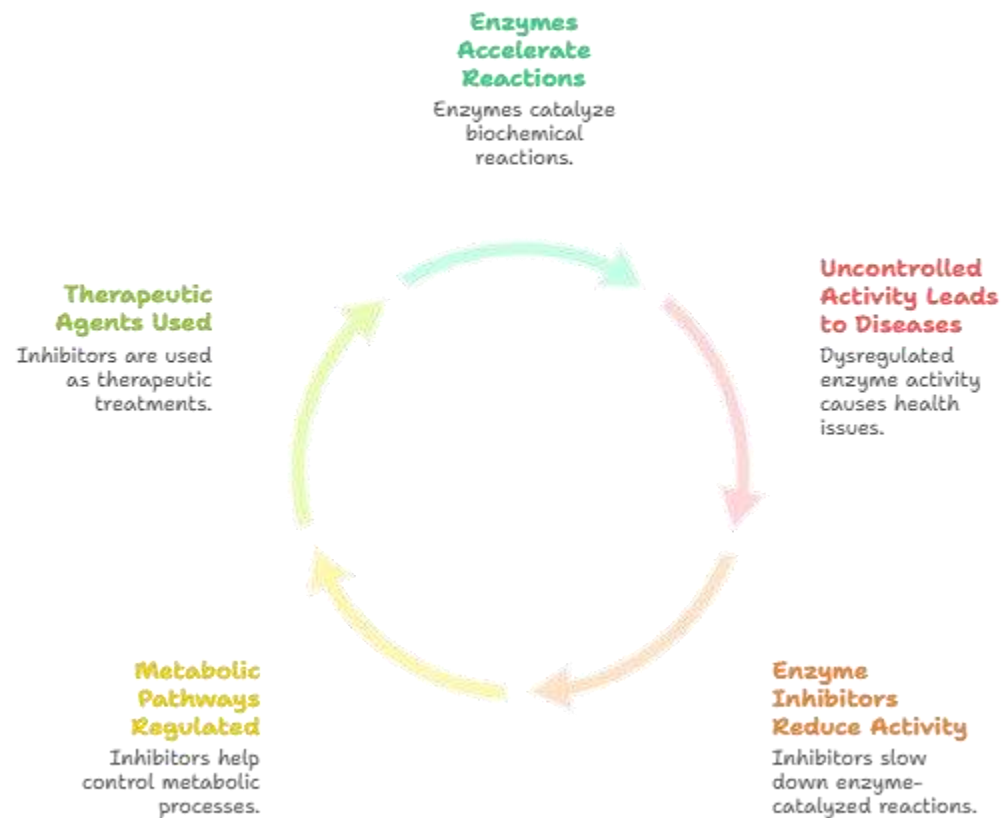


Compare enzyme inhibition types for drug development.



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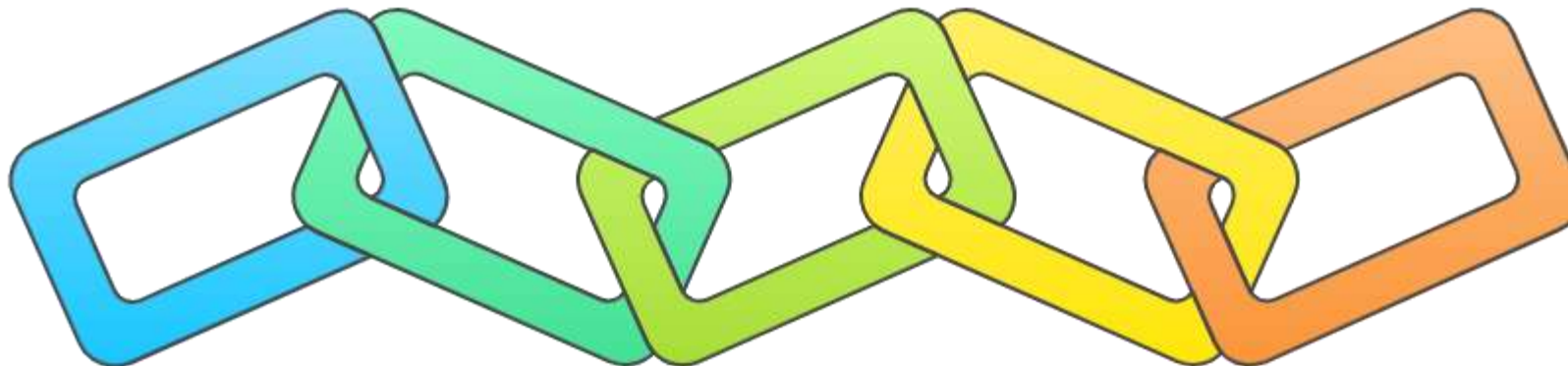
Enzyme Activity Regulation Cycle



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Enzyme Inhibition Overview

Definition	Importance	Types	Mechanisms	Significance
Molecules that bind to enzymes and decrease activity	Fundamental to drug development	Different categories of enzyme inhibition	How enzyme inhibition occurs	Role in drug design and therapeutics



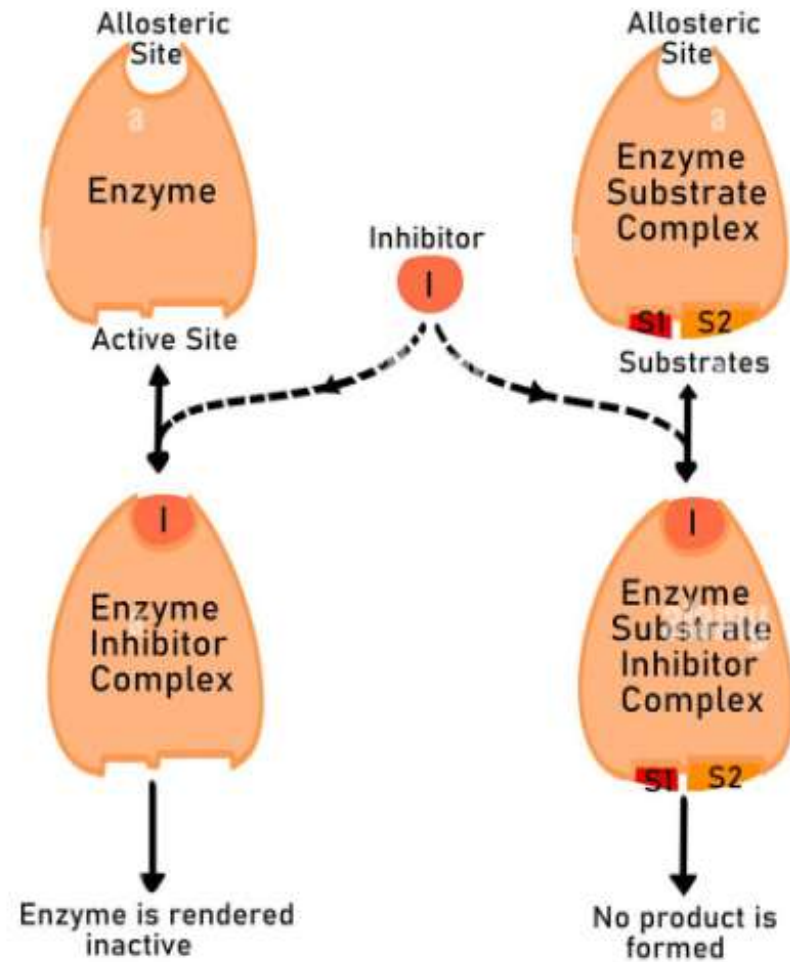
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Biotin's Role in Carboxylation

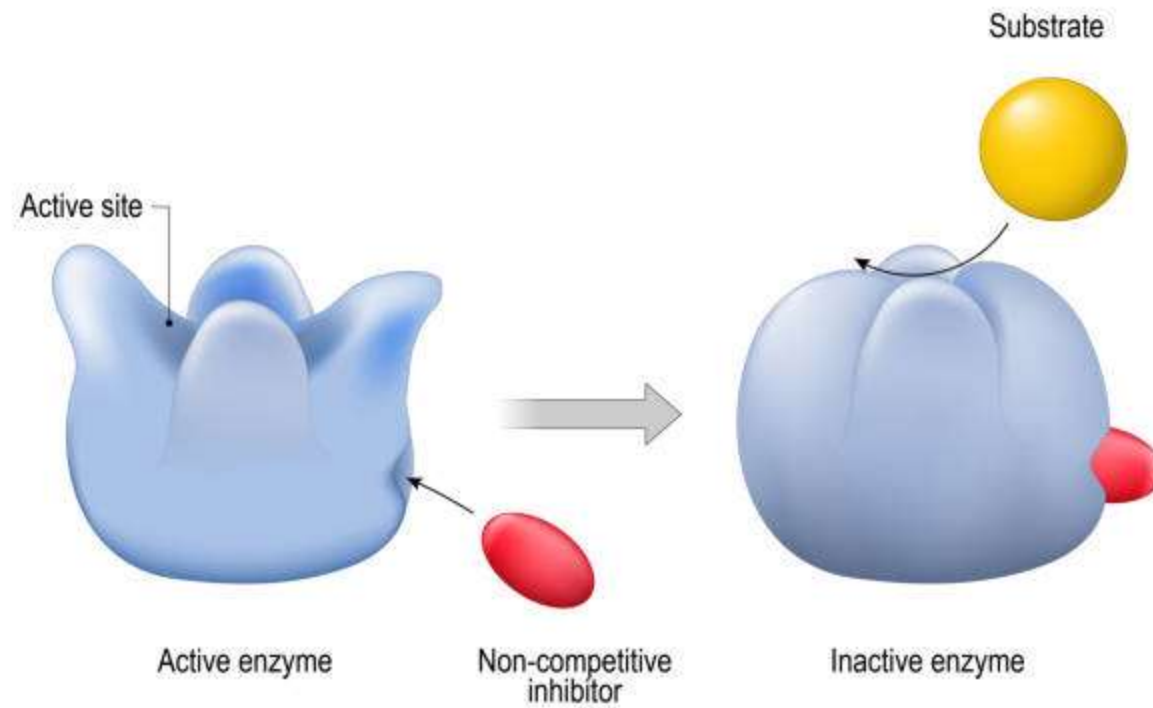


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Mixed Enzyme Inhibition

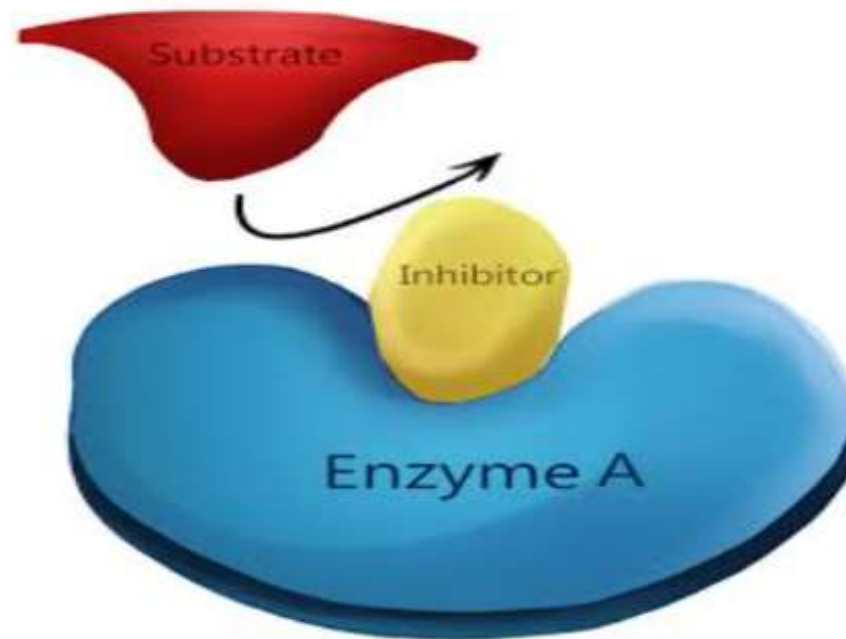


Non-competitive inhibition



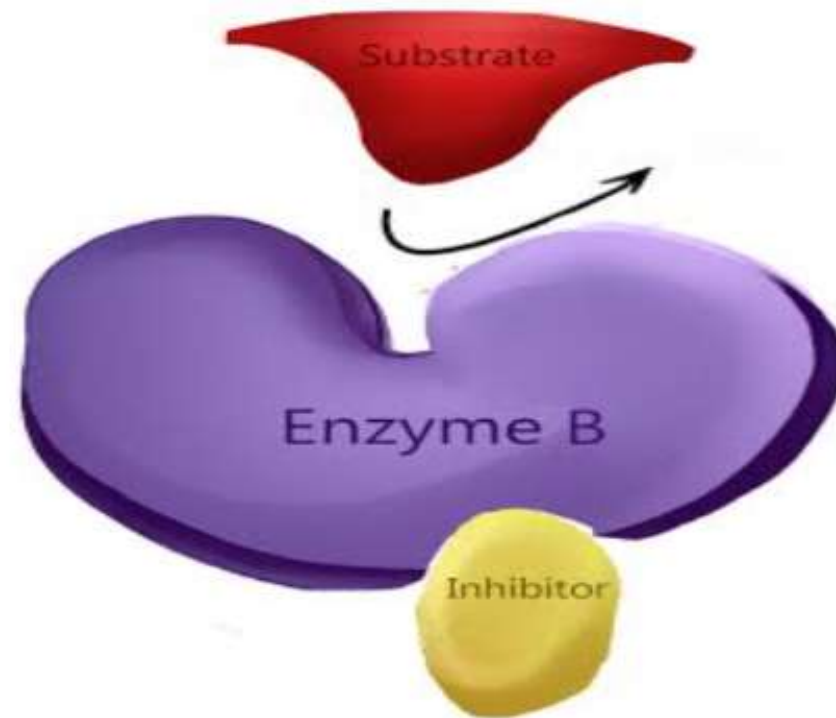
CLASS ASSESSMENTS

IDENTIFY THE TYPE OF ENZYME BY SEEING THE PICTURE?



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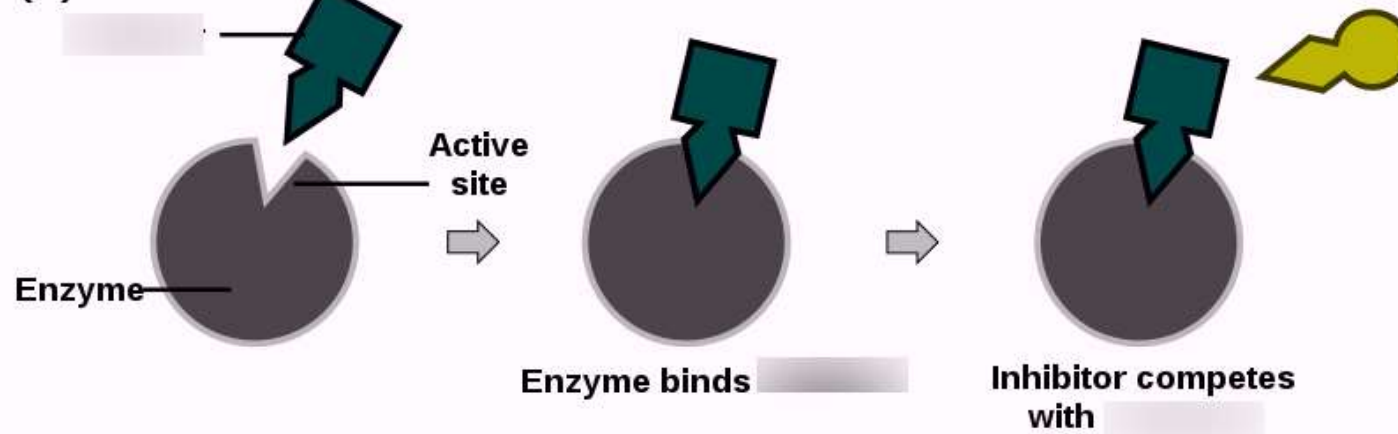


SUMMARY

(a) Reaction



(b) Inhibition



REFERENCES

- ✓ Herpes review of biochemistry-Martin
- ✓ Text book of biochemistry- D. Satyanarayana
- ✓ Text book of clinical chemistry-Alex Kaplan & Laverne L szabo
- ✓ Principles of biochemistry-Lehninger
- ✓ Text book of biochemistry-Ramarao

thank you