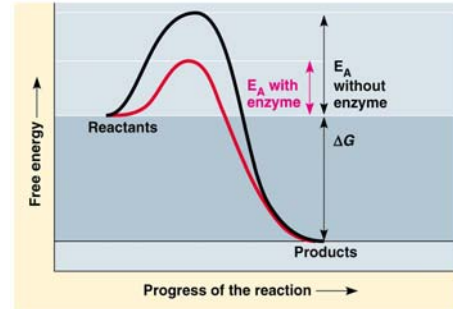


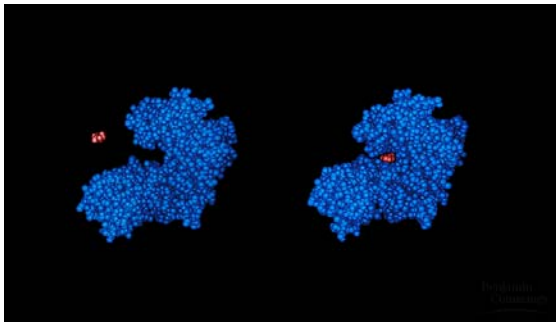
Enzymes

How Enzymes Work

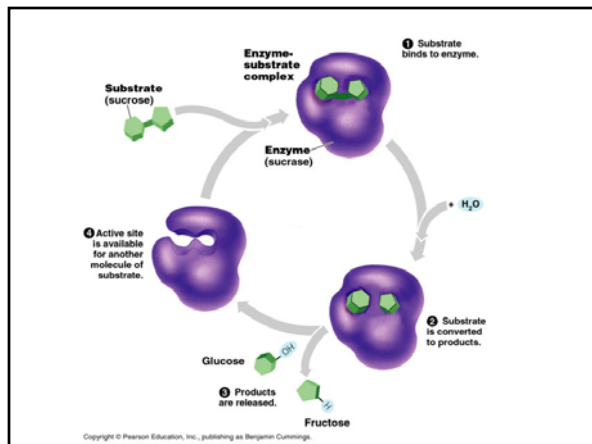
- Enzymes speed up the cell's chemical reactions by lowering energy barriers.



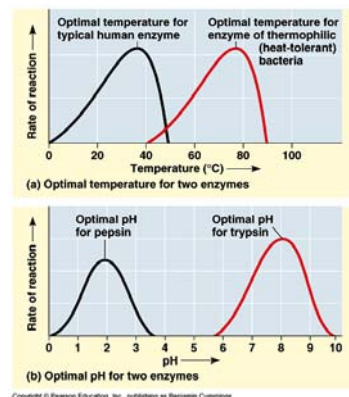
- Enzymes are large protein molecules that function as biological catalysts.

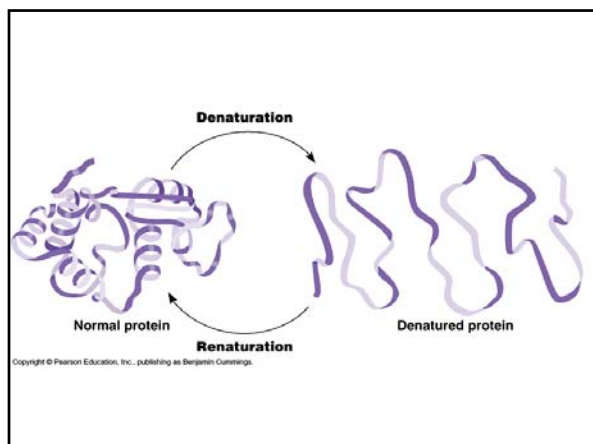


Note: Enzyme names end in *-ase* and are often named after the substrate. The enzyme that catalyzes the hydrolysis of sucrose is sucrase.



The cellular environment affects enzyme activity





Cofactors

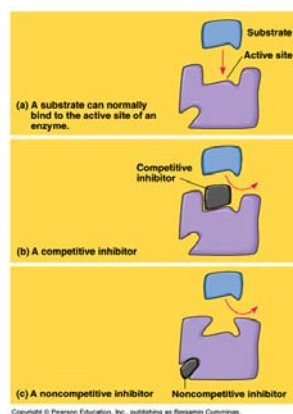
- The presence of cofactors often affect the way enzymes work.

Note: Magnesium is a cofactor that is essential for proper function of chlorophyll.

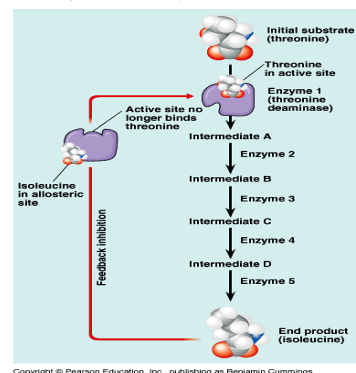
- Organic cofactors are called coenzymes.

Note: Vitamins are coenzymes.

Enzyme inhibitors block enzyme action



Negative feedback is a type of inhibition whereby enzyme activity is blocked by one of the products of the reaction it catalyzes



Some pesticides and antibiotics inhibit enzymes

- For example, the pesticide malathion inhibits the enzyme acetylcholinesterase, involved in nerve transmission.
- The antibiotic penicillin interferes with an enzyme that helps build bacterial cell walls.