RB2 - Enzymes and ATP – Biology Revision

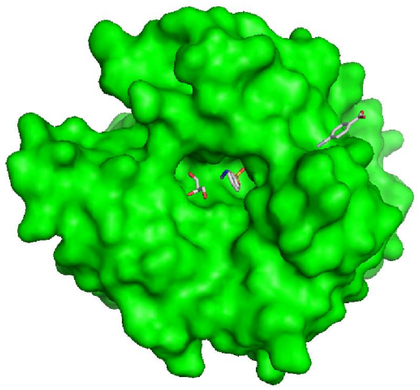
What is the monomer subunit of an enzyme?

Enzymes are examples of biological catalysts. In general, how do enzymes do this?

How do catalysts make a chemical reaction more favourable?

How does an inhibitor stop an enzyme working as effectively?

Inhibitor X binds to an enzyme away from its active site. Explain whether it is a competitive or non-competitive inhibitor:

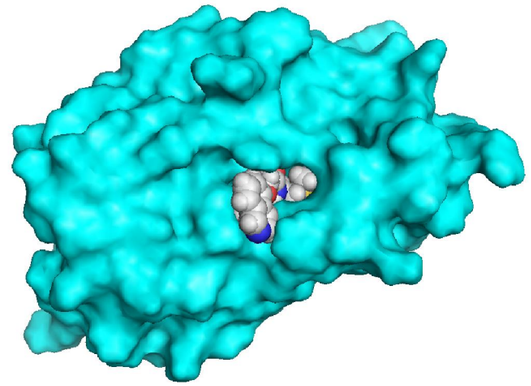


How does the induced-fit model differ from the lock and key model of enzyme action?

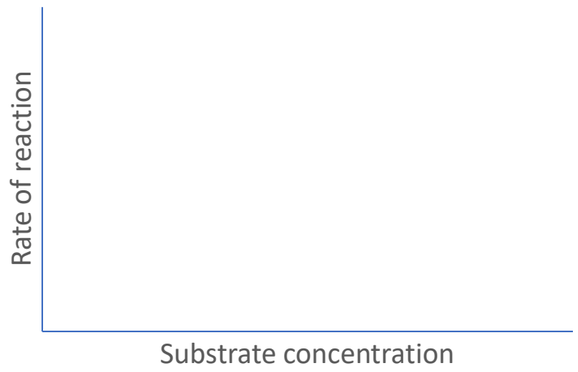
Enzymes are highly specific, meaning that that will only form an enzyme-substrate complex with certain substrates. Explain what makes each enzyme so specific to a set of substrates:

Explain how changing the concentration of H^+ ions within a system could prevent an enzyme from working effectively:

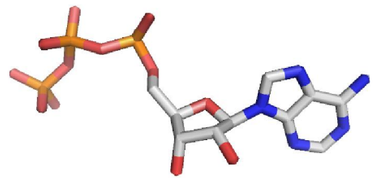
Explain why enzymes denature at high temperatures:



If the concentration of substrate was increased, but the concentration of enzyme remained constant, how would the rate of reaction change?



Label the three constituents of ATP:



Explain why ATP is a nucleotide derivative:

ATP is hydrolysed by the enzyme ATP hydrolase. What are the two products of this?

What is the role of ATP?

How does ATP hydrolase allow this to happen?

When ATP hydrolase breaks down ATP, it often phosphorylates other compounds. When a compound is phosphorylated, does it tend to become more or less reactive?

Explain how ATP is resynthesised in the body:

Produced by Adam Stubbs at Newcastle University as part of a summer outreach project.