

Enzyme Activity Post-Lab Assessment

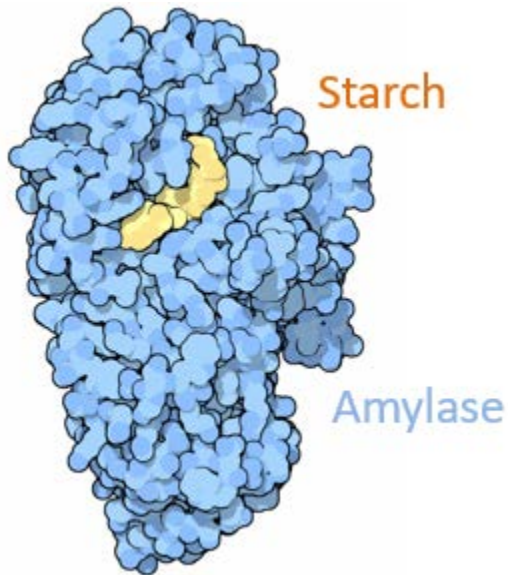
1. Enzymes work by lowering the _____. This happens by the enzyme binding substrate in the _____.
 - a. Energy of activation; active site
 - b. Energy of activation; allosteric site
 - c. Energy of deactivation; active site
 - d. Energy of deactivation; allosteric site

2. What kind of macromolecule is an enzyme?
 - a. Deoxyribonucleic acid
 - b. Lipids
 - c. Proteins
 - d. Carbohydrates

3. A single change in an amino acid in an enzyme's active site can _____. Select all that apply.
 - a. does not affect enzyme activity
 - b. lower the affinity of the enzyme for the substrate
 - c. change the enzyme's 3-dimensional conformation
 - d. affect the rate of the reaction

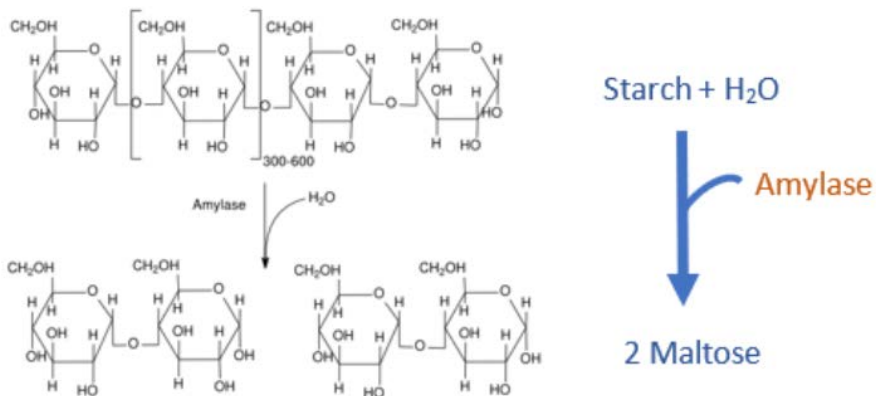


4. In this image, identify the substrate and the enzyme.



<http://pdb101.rcsb.org/motm/74>

5. In the following reaction, identify the product.



- a. Starch
 - b. Starch and H₂O
 - c. Amylase
 - d. Maltose
6. As the reaction proceeds, the product _____.
- a. increases
 - b. decreases
 - c. stays the same

7. Match the terms.

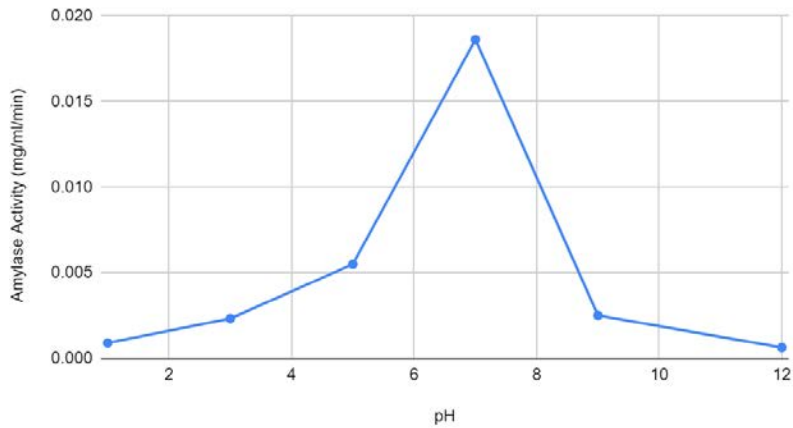
- | | |
|------------|-----------------|
| a. Amylase | Product _____ |
| b. Maltose | Enzyme _____ |
| c. Starch | Substrate _____ |

8. In humans, where is amylase produced in the body?
- a. In the intestines and salivary glands
 - b. In the salivary glands and pancreas
 - c. In the intestines and pancreas
 - d. In the salivary glands



9. What is the optimal pH for the human amylase activity?

Effect of pH on Amylase Activity



- a. 4
- b. 6
- c. 7
- d. 8

10. You can measure the amount of _____ remaining or _____ produced as an indicator of enzyme activity.

- a. Substrate; product
- b. Product; substrate
- c. Enzyme; substrate



d. Product; enzyme

11. What is true of a colorimetric assay? Select all that apply.

- a. The color intensity is indicative of the amount of the compound.
- b. A colorimetric assay uses a reagent that changes color in the presence of a compound of interest
- c. A colorimetric assay can be used to measure the amount of product produced in a chemical reaction
- d. A colorimetric assay measures the amount of substrate in a reaction.

12. You will use the _____ reagent to indicate how much maltose is present.

- a. Amylase
- b. Maltose
- c. DNS
- d. Maltonic acid

13. Using the spectrophotometer you can measure the absorbance of light by a sample. This absorbance will tell you what?

- a. The concentration of the the substrate
- b. The concentration of the product



- c. The concentration of the colorimetric reagent
- d. The concentration of the enzyme

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