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Tuesday lab

9/26/23

Lab 3: Properties of Enzyme Action

Purpose - The purpose of the fat with pancreatic lipase and bile salts lab is to study the digestion of fats.

Procedures -

1. Add just enough litmus powder to a container of dairy cream to produce a medium blue color. Pour 3 ml of the litmus cream into 4 separate test tubes. Into two additional test tubes pour 3 ml of 2% pancreatin. Preincubate the litmus cream and the pancreatin separately in a 37'C water bath for 5 minutes. Then prepare four test tubes as follows:

Tube #1: 3 ml cream + 3 ml pancreatin

Tube #2: 3 ml cream + 3 ml distilled water

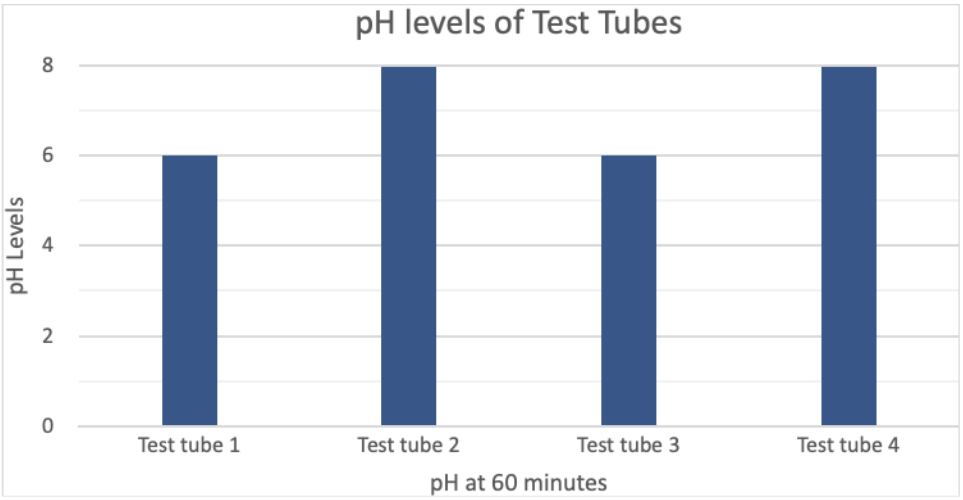
Tube #3: 3 ml cream + 3 ml pancreatin +pinch of bile salts

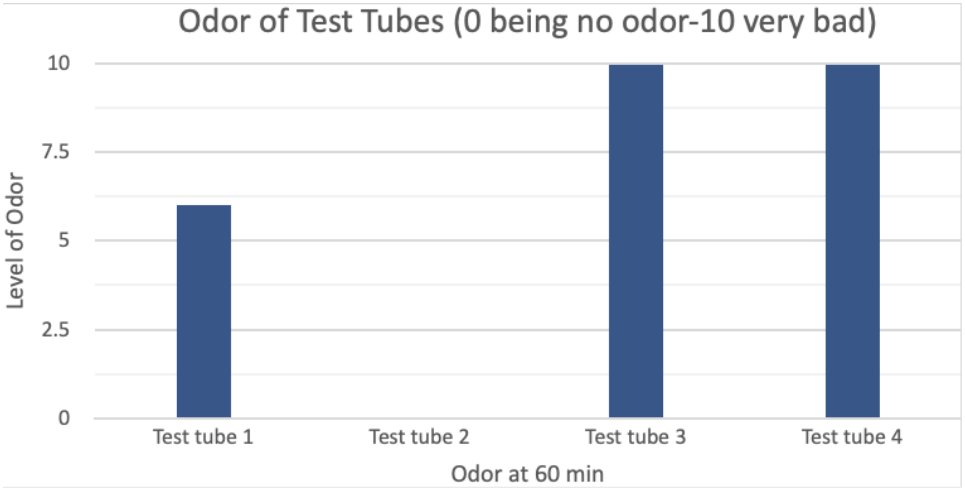
Tube #4: 3 ml cream + 3 ml distilled water + pinch bile salts

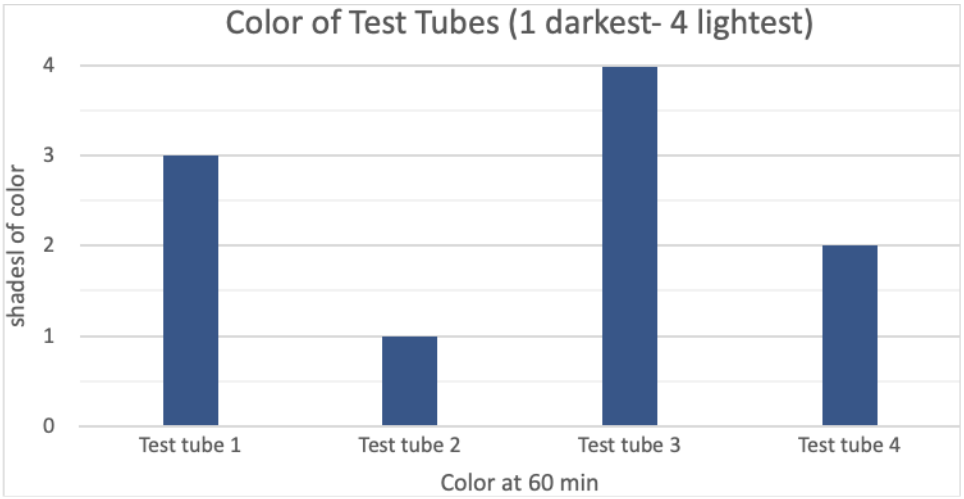
2. Gently shake each tube for 30 seconds to mix in the bile salts. Incubate all four tubes in a37'C water bath for 1 hour, checking every minute for the first 5 minutes or until the first tube changes color, then every 15minutesfor the rest of the hour. Record the time and number of the tube. Continue checking for the remainder of the hour.

3. Remove the tubes from the water bath. Test the pH of each tube using pH paper and note the odor and color of each tube. NOTE: Blue litmus will turn pink in an acidic environment.

Results -


pH levels of Test Tubes
8
6
4
2
0
pH Levels
Test tube 1
Test tube 2
Test tube 3
Test tube 4
pH at 60 minutes


Odor of Test Tubes (0 being no odor-10 very bad)
10
7.5
5
2.5
0
Level of Odor
Test tube 1
Test tube 2
Test tube 3
Test tube 4
Odor at 60 min


Color of Test Tubes (1 darkest- 4 lightest)
4
3
2
1
0
shadesl of color
Test tube 1
Test tube 2
Test tube 3
Test tube 4
Color at 60 min

Discussion - I really liked seeing the different test tubes change colors into these Lavendar and blueish colors. The smells of these, however, were horrible and unpleasant.

Conclusion- Pancreatic lipase is an enzyme produced by the pancreas that helps break down fats into smaller molecules called fatty acids and glycerol. Bile salts, produced by the liver and stored in the gallbladder, help emulsify fats, making it easier for pancreatic lipase to break them down. This lab helps us understand how our bodies digest and absorb fats.