

Lab report 3

Title- Properties of Enzyme Action

Purpose of Lab- To examine some aspects of the action of pancreatic lipase and bile salts on lipids

Procedure-

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 a 37 C water bath for 1 hour, checking every minute for the first 5 minutes or until the first tube changes color, then every 15 minutes for the rest of the hour. Record the time and the 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 acid environment.

4. Summarize the results in the following table:

Tube	Color	pH	Odor	Time to change color
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#1

#2

#3

#4

5. Explain how the digestion of fat affects the pH of the solution and how bile affects the rate of digestion.

Tube 1 Time	Color	Tube 2 Time	Color	Tube 3 Time	Color	Tube 4 Time ▼	Color
850	Pinkish	850	Dark Purple	850	Light Purple	850	Dark Purple
840	Cloudy Purple	840	Dark Purple	840	Pinkish	840	Dark Purple
825	Pinkish	825	Dark Purple	825	Pinkish	825	Dark Purple
810	Dark Purple	810	Dark Purple	810	Dark Purple	810	Dark Purple
755	Dark Purple	755	Dark Purple	755	Dark Purple	755	Dark Purple
754	Purple	754	Purple	754	Purple	754	Purple
753	Purple	753	Purple	753	Purple	753	Purple
752	Purple	752	Purple	752	Purple	752	Purple
751	Purple	751	Purple	751	Purple	751	Purple

End results -

Tube	Color	pH	Odor	Time to change color
1	Pink	8	smelled like cheese	5 minutes
2	Dark Purple	9	Baby Spit Up	5 minutes
3	Light Purple	6	Moldy Cheese	5 minutes
4	Dark Purple	8	Fry Oil	5 minutes

Discussion- During this experiment it shows how the pancreatic lipase and bile salts aid in fat digestion.

Conclusion- In conclusion Tube 1 and tube 4 will be the most helpful in digestion in the small intestines due to the pH level.