

Kristal Machado

Lab 3- Digestion of fat with pancreatic lipase and bile salts

A key role in fat digestion is pancreatic lipase. Bile salt helps overcome the problem by acting as emulsifying agent, which can break fat into smaller droplets so that lipase has a bigger surrounding area for hydrolysis of fats. As a result, for this lab, we will be able to define enzymes and understand how an enzyme works, also how the temperature and pH can have effect on an enzyme.

For this procedure, my partner and I will be using the following materials: test tubes, dairy cream, 2% pancreatin, distilled water, pinch of bile salt, pH paper, and a water bath.

We had 4 test tubes, each tube was filled with 3ml of the dairy cream, in two of the test tubes we filled and then into two additional tubes we poured 3ml of 2% pancreatin. We then preincubated the litmus cream and pancreatin separately in a 37 Celsius water bath for 5 min. We then added a pinch of bile salt into two test tubes, the one that had 3ml cream+ 3ml pancreatin, and 3ml cream+ 3ml distilled water. Then we gently shake each tube for about 30 seconds to mix in the bile salt. Incubated all four test tubes for 30 min and checked them every 5 min to see if they changed color. We would then remove all four tubes after 30 min and test the pH using the pH papers and document the results: Odor, color, pH and the time it took for them to change color.

The bile I believe had the effect to help break down the compound that it was added to which are the ones to change color first, it moved a lot quicker. The pH change can occur because there is a weaker acid digestion tract causing more protons to be in solution. So, when you eat too much fat you can end up feeling sick and you may need antacid tablets.

" Column1"	Color	pH	Odor	time to change color
Cream+ 3ml pancreatin"	purple pink	6	burnt	16 min
Cream+ 3ml distilled water	purple	7	old milk	no change
Cream+ 3ml pancreatin+ pinch of bile salt	pink	5	Burnt charcoal	30 min
cream+ 3ml distilled water+ pinch bile salt	purple	7	burnt	20min

