

# Lens – Milk

## Enzymatic degradation of milk fat with lipase

### Materials and tools:

test tubes, test-tube rack, water-bath, Pasteur-pipettes, pancreatic extract, milk, phenol-phtalein indicator, 10% NaOH (sodium hydroxide) solution

### Method:

- 1, Put 2 ml pancreatic extract into the test tube and add 3 ml milk and 2 drops of phenol-phtalein indicator to it
- 2, Drip 10% sodium hydroxide to the solution with Pasteur-pepette until it appears to be light pink and this colour remains after slight shaking as well
- 3, Place the test tube in 37°C water-bath

### Observation:

The pink coloration is increasingly disappearing in the water-bath

### Explanation:

Milk contains lipids in the form of emulsion. The enzymatic degradation of triglycerides results in the production of fatty acids and monoglycerides. In the course of the experiment lipid decomposition in the milk emulsion with lipase was indicated. The disappearance of the colour of phenol-phtalein indicates the decrease of the pH due to the production of fatty acids. Normal human temperature is 37°C as well, therefore we assured the adequate temperature for the function of the enzyme.

