Milk and More

BIOCHEMISTRY WORKSHOP

Sugars in Milk

In this activity you will learn about different sugars in milk

What you need

A small beaker or cup
100ml of any cow's milk
A teaspoon or spatula
1 Lactase tablet
Glucose test strips

What to do:

- Pour the milk into the beaker
- Test the glucose level in the milk using a Glucose test paper
- Crush the Lactase tablet using a spoon
- Pour the crushed Lactase tablet into the milk and stir
- Stir the milk once a minute for 5 minutes
- After 5 minutes test the Glucose level of the milk again
- Stir again every minute for another 5 minutes
- Test the Glucose level of the milk again

What's going on?

Milk contains sugar in the form of Lactose. Lactose is made up of two different types of sugars – galactose and glucose. The human body can't absorb Lactose but can absorb galactose and glucose. In the small intestine an enzyme called Lactase breaks Lactose up into galactose and glucose. The Lactase tablet used here contains the enzyme.
The glucose test strip measures the level of glucose in the milk. They are usually used by people who are diabetic to measure the glucose in their blood.
Lactase takes time to convert all the Lactose to galactose and glucose.

Lactose Intolerance

Some people are Lactose Intolerant. This means that they don't have Lactase in their small intestine so are unable to digest Lactose. Some are able to use Lactase tablets that enables them to digest milk.
Note that Lactose Intolerance is different from a milk allergy.

Warning

IF THERE IS SOMEONE IN THE GROUP INTOLERANT TO MILK, STRESS THAT LACTASE TABLETS ARE NOT SUITABLE FOR EVERYONE WHO HAS A LACTOSE INTOLERANCE!

BIOCHEMICAL SOCIETY

See Science Gweld Gwyddoniaeth