

**STUDENT
PRACTICAL SHEET**

NAME

FORM

DATE

Yoghurt Gram staining

Introduction

Yoghurt is fermented milk. The fermentation process uses bacteria to change the lactose in milk to lactic acid. This thickens the milk and makes the pleasant yoghurt taste.

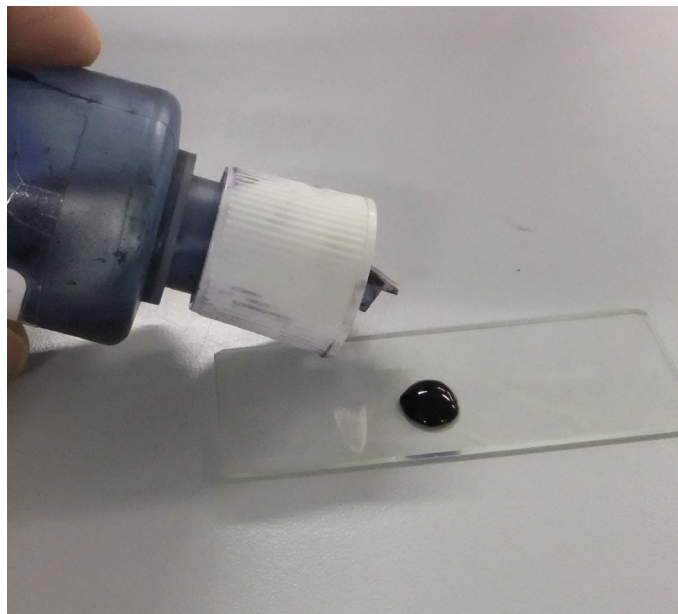
Aim

To prepare a smear slide of yoghurt and observe Gram stained bacteria using a microscope.

Equipment

Microscope
Microscope slide x 2
Bunsen burner, mat and safety equipment
70% Ethanol
Crystal violet solution
Lugol's iodine solution
Safranin solution
Dropping pipette x 4
Slide holder
Sink/tray or large beaker
Lint free tissue
Yoghurt drink and dropping pipette
Splash proof eye protection

Safety: Splash proof eye protection must be worn as crystal violet is harmful.
See CLEAPSS Hazcards 32, 36A, 40A and 85.



Method

Preparing the smear

1. Put a few drops of ethanol onto a microscope slide. Using lint free tissue, wipe the microscope slide to remove any traces of grease. Allow the ethanol to evaporate off.
2. Add two drops of yoghurt drink to the clean microscope slide. Using the end of the second microscope slide, wipe the yoghurt drink to make a smear. Gently heat the slide so that the smear becomes dry and the bacteria are 'fixed'.

Gram stain

3. Put the slide, smear upwards onto the slide holder, over the sink.
4. Using a pipette, cover the slide with crystal violet stain and leave for about a minute.
5. Using a second pipette, gently wash off the crystal violet with Lugol's iodine. Leave the iodine on the smear for about 1 minute.
6. Using a third pipette, gently wash off the iodine with the ethanol.
7. Gently wash the ethanol off with water.
8. Using a fourth pipette, add safranin stain onto the smear for about 30 seconds.
9. Gently wash off the safranin stain with tap water. Blot with lint free tissue.

Looking at the bacteria

10. Put the stained microscope slide onto the stage.
11. Select the highest magnification and carefully move the stage from the lowest setting. When the bacteria are visible use the fine adjustment to focus.

Results



Magnification =

Annotate your sketch to show the rod shaped bacteria which ferment milk to make yoghurt.