

Red dyeing solution

F1508179

Storage: Room Temperature. Store in the dark.

Shipping: Normal.

Introduction:

The Gram staining method was invented by the Danish physician Christian Gram in 1884. It is a widely used differential staining method in bacteriology and also a type of counterstaining method. Unstained bacteria are extremely difficult to observe under a microscope due to their minimal difference in refractive index from the surrounding environment. After staining, bacteria form a sharp contrast with the environment, allowing for clear observation of bacterial morphology, arrangement, and certain structural characteristics, which can be used for classification and identification.

Red dyeing solution is mainly composed of basic fuchsin (i.e., fuchsin). It is mostly used in combination with crystal violet, Gram's iodine solution, etc., for the detection of Gram-positive and Gram-negative bacteria, and its staining effect is superior to that of safranin counterstain solution. This reagent is for research use only and not suitable for clinical diagnosis or other purposes.

Materials to Be Prepared by the User:

1. Ammonium oxalate crystal violet staining solution, Gram's iodine solution, 95% ethanol.
2. Glass slides, coverslips, alcohol lamps, optical microscopes.

Operating Procedures (For Reference Only):

1. Smear preparation: Take the test bacteria and spread them into a thin layer in the center of a glass slide; alternatively, place a drop of sterile water on the slide, mix the bacteria thoroughly with the water, and spread into a thin layer.
2. Drying: Air-dry the smear at room temperature, or slightly heat it over an alcohol lamp to accelerate drying.
3. Fixation: Hold one end of the glass slide with the specimen side facing up, and quickly move it back and forth 3–5 times over the outer flame of the alcohol lamp, 1 second each time. Avoid excessive temperature to prevent denaturation of bacterial proteins. Allow it to cool before staining; methanol or ethanol can also be used for fixation.
4. Primary staining: Add crystal violet staining solution and stain for 1–2 minutes, then rinse the staining solution off with clean water.
5. Mordanting: Add Gram's iodine solution to cover the entire slide, leave it at room temperature for 1–2 minutes, then rinse with water.
6. Decolorization: Add 95% ethanol, shake the slide to decolorize for 10–30 seconds until no

purple color appears in the effluent decolorizing solution. Immediately rinse with water to terminate the reaction.

7. Counterstaining: Add fuchsin counterstain solution and stain for 30–60 seconds, then rinse with water.
8. Cover the smear with a clean coverslip and press gently to make a squashed preparation.

Precautions:

1. Mark a circle on the back of the glass slide before smear preparation to determine the position for subsequent experiments.
2. The culture time of the test bacteria can affect staining results. Gram-positive bacteria cultured for an extended period, or those that are dead or lysed, often yield negative staining reactions.
3. For your safety and health, please wear a lab coat and disposable gloves during operation.
4. Use the reagent as soon as possible after opening to avoid affecting subsequent experimental results.

