Ehrlich Reagent

E1506552

Storage: Room Temperature. Store in the dark.

Introduction:

Bacterial biochemical tests (also referred to as biochemical reactions) refer to the process of determining these metabolic products via biochemical methods. This is based on the fact that different bacteria possess distinct enzyme systems, leading to varied abilities to decompose substrates and thus producing different metabolic products. Biochemical tests mainly include carbohydrate biochemical tests, amino acid and protein metabolism tests, carbon and nitrogen source utilization tests, enzyme metabolism tests, etc. Different bacteria vary in their capacity to decompose proteins. Generally, extracellular enzymes first break down proteins into short peptides or amino acids. After these substances enter bacterial cells, intracellular enzymes further decompose the peptides into amino acids. This decomposition process can be detected through amino acid and protein metabolism tests, among which the indole test is a typical example of such tests.

Aladdin Ehrlich's Reagent, also known as indole reagent or indican reagent, has p-dimethylaminobenzaldehyde as its active component. Adding Ehrlich's Reagent will result in the formation of red rosindole. The principle of the indole test is that certain bacteria containing tryptophanase can decompose tryptophan in peptone water to produce indole (indican). Indole combines with p-dimethylaminobenzaldehyde to form rosindole, a red compound. Ehrlich's Reagent is particularly suitable for the identification of Enterobacteriaceae, non-fermenting bacteria, parasitic bacteria, and anaerobic bacteria.

Materials to be Prepared by the User:

1. Test tubes.
2. Tryptone medium.
3. Constant-temperature incubator.

Operating Procedures (For Reference Only):

1. Inoculate the test bacteria into the tryptone medium and incubate it in a constant-temperature incubator at 35–37°C for 24–48 hours.
2. Slowly add 1 ml of ether or xylene along the inner wall of the test tube, then shake the tube thoroughly to extract and concentrate indole until the red indole floats on the surface of the medium.
3. Slowly add several drops of Ehrlich Reagent along the inner wall of the test tube, and observe the color change at the contact surface between the reagent and the medium.

Note: Do not shake the tube again after adding Ehrlich Reagent; otherwise, the liquid interface will mix, and the red ring will become indistinct.

Staining Results:

Red	Positive
No color change	Negative

Precautions:

1. Take care to avoid contamination when culturing bacteria.
2. Ehrlich's reagent is intended for research purposes only and not for clinical diagnosis.
3. For your safety and health, wear a lab coat and disposable gloves during the operation.