

Acid-Fast Staining Solution (Ziehl-Neelsen Hot Method)

Cat #: A-CSH378

Size: 3×50mL, 3×100mL

Storage: Room temperature, avoid light (12 months)

Product Composition

Component	3×50mL	3×100mL	Store at
Reagent (A): Carbazochrome staining solution	50ml	100ml	10~30°C, and were protected from light
Reagent (B): Acid alcohol solution	50ml	100ml	10~30°C
Reagent (C): Methylene blue staining solution	50ml	100ml	10~30°C, and were protected from light

Product Description

Mycobacterium tuberculosis has a cell wall that contains a large amount of lipids surrounding the peptidoglycan, making it difficult to stain. Once the mycolic acid in *Mycobacterium tuberculosis* binds to a dye, it becomes resistant to decolorization by acid alcohol, hence the name acid-fast staining. The most representative traditional staining method for acid-fast bacteria is the Ziehl-Neelsen staining method for tuberculosis. The acid-fast staining solution (Ziehl-Neelsen hot staining method) is a heat-based staining solution. Its staining principle involves the formation of a complex when the acid-fast bacteria bind to the red dye under heating conditions. After counterstaining with methylene blue, acid-fast bacteria remain red, while other bacteria and substances in the background appear blue. This reagent kit is more suitable for cases where the cold staining method is ineffective.

Usage

1. Take the specimen with an inoculating loop and smear it onto a glass slide. Heat-fix the smear.
2. Drop carbol fuchsin solution onto the specimen, heat gently until steam appears, then stop heating. Maintain the staining process for at least 5 minutes (if necessary, add more staining solution to prevent evaporation, but avoid

boiling. Increase the heating cycles and staining time appropriately for high-altitude areas).

3. Gently rinse the slide with running water from one end, washing away the staining solution, and drain the excess water from the specimen.
4. Decolorize with acid alcohol until no red color is visible, usually 1 minute. If necessary, rinse with running water and continue decolorizing until no visible red color remains.
5. Gently rinse the slide with running water from one end, wash away the decolorizing solution, and drain the remaining water from the slide.
6. Stain with methylene blue staining solution for 30-60 seconds.
7. Rinse the slide with running water from one end, wash away the counterstain solution, and then drain the remaining water from the specimen.
8. Examine the slide after it has dried.

Staining Results

acid fast bacteria	red
Background and non-acid-resistant bacteria	blue

Notes

1. Close the reagent bottle tightly after each use to prevent evaporation and contamination.
2. The above reagents can cause irritation to the human body, so please take appropriate precautions.
3. For your safety and health, please wear lab attire and disposable gloves while performing the procedure.

Disclaimer

The reagent is only used in the field of scientific research, not suitable for clinical diagnosis or other purposes.