Carolina™ Solution Sheets

Carbol Fuchsin, Ziehl-Neelsen

Learn how to make carbol fuchsin, Ziehl-Neelsen stain and use it to stain mycobacteria.

Materials

Distilled Water (item #858621)
Anhydrous Ethanol (item #861298)
Basic Fuchsin (item #864170)
Phenol (item #879710)
Hydrochloric Acid (item #867868)
Methylene Blue (item #875735)
Stir Bar
Amber Bottle
Magnetic Stir Plate (item #701023)
Erlenmeyer Flask, 500-mL (item #731030)
Label
Boiling Chips (item #848280)

Don't want to make it yourself?
Find carbol fuchsin, Ziehl-Neelsen stain at Carolina.com

Item Numbers
852705, 852707

Procedure

1. Mix 1 g of basic fuchsin with 10 mL of absolute alcohol.
2. Then mix 5 g of phenol with 100 mL of distilled water.
3. Finally, mix the 2 solutions together.

Staining procedure:

1. Drop suspension onto slide.
2. Air dry slide 10 minutes at 60° C, then heat-fix slide 10 minutes at 90° C.
3. Flood slide with carbol fuchsin, Ziehl-Neelsen stain.
4. Hold a flame beneath the slide until steam appears but do not allow it to boil.
5. Allow hot slide to sit for 3 to 5 minutes, then rinse with tap water.
6. Flood slide with 3% hydrochloric acid in isopropyl alcohol.
7. Allow to sit 1 minute, then rinse with tap water.
8. Flood slide with methylene blue.
9. Allow to sit 1 minute, then rinse with tap water.
10. Blot dry.
11. View under oil immersion lens.

Label Information

Carbol Fuchsin, Ziehl-Neelsen

Skin irritant; causes serious eye damage; toxic if inhaled

Date Prepared: _____
Initials of Preparer: _____
Health Risk: 1
Flammability: 1
Reactivity: 0

Applications

Ziehl-Neelsen stain is a method of staining acid-fast microorganisms, particularly *Mycobacterium* and *Nocardia*.

Reference

Brandwein, P. F., and E. Morholt. 1986. *A sourcebook for the biological sciences*, 3rd ed. Orlando, FL: Harcourt Brace Jovanovich, 1986, p. 170.

Ellis, R. C., and L. A. Zabrowarny. 1993. Safer staining method for acid fast bacilli. *Journal of Clinical Pathology* 46:559–60. doi:10.1136/jcp.46.6.559. PMC 501296. PMID 7687254.