

# Bacteria

## Carolina™ CareSheet

### Caution

This CareSheet provides general information only for handling Carolina™ bacterial cultures. When you work with bacteria, it is imperative that you use sterile techniques at all times. Failing to follow sterile techniques can contaminate cultures and work areas, and cause health and safety risks. See our *Carolina Techniques for Studying Bacteria and Fungi Manual* (item #154664) for descriptions of sterile techniques and standard practices for handling bacterial cultures.

### Immediate care and handling

When your bacterial cultures arrive, immediately open the shipping container and remove the cultures. We ship cultures in tubes, plates, and as MicroKwik Culture® freeze-dried cells. Visually inspect each culture. Ensure that tubes are intact with caps securely in place, plates have no cracks and lids are secured by tape, and plastic bags containing MicroKwik Culture® cells are securely closed with the enclosed tube and vial intact. You must seal any culture damaged during shipment—and anything it contaminated—in an autoclavable bag, then sterilize it by autoclaving or covering it with disinfectant. **Note: Never discard a damaged, unsterilized culture in the trash. Know and follow your school or district's guidelines for proper disposal. Contact our Customer Service at 800.334.5551 for a replacement of your damaged culture. It will help to have your order number available when you call.**

Hold most cultures at room temperature 20 to 22° C (68 to 73° F) and use within 3 to 5 days of receipt. Keep in mind that Carolina provides a variety of bacterial cultures and some have very specific care and handling needs that differ from these general guidelines.

### Maintaining and culturing

Eventually your bacterial culture will deplete the nutrients of the medium in or on which it is growing and will need subculturing. Before working with bacterial cultures, wash your hands with soap and water, ensure that the work area is draft free, and wipe the work surface with 70% alcohol or similar disinfectant. **Note: Always check the culture for signs of contamination immediately prior to using.** Transfer broth cultures to fresh broth using a sterile pipet or streak onto agar using a sterile inoculating loop. For faster growth, you can incubate most cultures at 25 to 30° C (77 to 86° F). After making the transfers, clean the work area with disinfectant and wash your hands again. Either autoclave the old stock cultures and glassware, or cover them with disinfectant overnight.

### FAQs

#### What agar should I use for my bacterial cultures?

In Carolina's print and online catalogs, the product descriptions for our bacterial cultures include the type of nutrient medium that we use for each culture. This information also appears on the label affixed to the culture. A wide range of bacteria will grow on nutrient agar (item #789640).

#### Can I pour my own plates if I don't have an autoclave?

See our Nutrient Agar Bottle (item #776360) and other prepared media bottles. A bottle containing 125 mL of medium will pour 4 to 5 standard 100 × 15-mm plates. Watch our *How to Melt and Pour Agar Plates* video (at [www.carolina.com](http://www.carolina.com)) for a demonstration of the technique.

### **Should I order a tube or plate culture or a MicroKwik Culture®?**

Tube cultures are best for stock. A tube culture is often streaked on a plate and incubated before lab use. Order a plate culture for convenience and immediate use. You can receive a plate culture and use it in a lab on the same day. A MicroKwik Culture® is best used for longer-term storage and to receive a culture of a pathogen.

### **What cultures should I order for antibiotic testing?**

Gram-positive and Gram-negative bacteria often give different results when tested against the same antibiotic. For that reason, we recommend testing against *Bacillus cereus* (item #154872), which is Gram-positive, and *Escherichia coli* (item #155068), which is Gram-negative. We recommend broth cultures because this makes it easier to spread the culture over the surface of an agar plate. See our Antibiotic Sensitivity BioKit® (item #154740) for more information.

### **What bacterial culture do I need?**

That depends on your intended use. Most microbiology lab manuals specify the culture or cultures to use. *Bacillus megaterium* (item #154900), a large bacterium, is a good choice for a student's first experience viewing bacteria. Our Introductory Bacteria Set (item #154755) includes cultures of a bacillus, a coccus, and a spiral bacterium representing the common bacterial shapes—rods, spheres, and spirals. Our Mixed Suspension of Introductory Bacteria (item #154760), with 3 types of bacteria, is useful for isolating a pure culture from a mixture or for observing the different shapes. Check our print and online catalog listing of bacterial kits to find one that fits your needs.

### **What stain should I use?**

For a simple stain to help your students visualize bacteria on a slide, use methylene blue, basic fuchsin, toluidine blue, or crystal violet. After a bacterial smear is heat fixed on a microscope slide and allowed to cool, flood the smear with stain and leave undisturbed for 1 min. Rinse away the stain with tap water and blot the slide dry before viewing with a microscope. See our print and online catalog listings of kits and sets for Gram staining, staining to show endospores, etc.

### **Problems?**

We hope not, but if so contact us. We want you to have a good experience.

Orders and replacements: 1-800-334-5551, then select Customer Service.

Technical Support and Questions: [caresheets@carolina.com](mailto:caresheets@carolina.com)



[www.carolina.com](http://www.carolina.com)

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