



Sample: Air, contact/surface, & fingertip samples.

Method: Quantitative culture for bacteria and fungi using appropriate media. The concentrations of viable organisms are expressed as colony forming units per cubic meter (CFU/m³) of air (air plate) or CFU/plate (contact, fingertip plates).

Collection:

Air samples

1. Viable airborne particles (bioaerosols) are collected with an impaction sampler, such as the Surface to Air Sampler (SAS). A dual-head or single-head sampler is acceptable. SAS 180 and 360 samplers are available for rent from U.S. Micro-Solutions.
2. Microbiological growth media used for sampling must support the growth of bacteria and fungi. For dual-head sampling, tryptic soy agar (TSA) and inhibitory mold agar (IMA), may be used for bacteria and fungi, respectively. For single-head sampling, TSA is recommended.
3. Recommended sampling time is 5-10 minutes at 100 to 180 liters of air/minute (total volume of 1000 liters).

Surface samples

1. Contact (Rodac) agar plates are used for surface sampling. These include TSA agar with Lecithin and Polysorbate 80 for bacteria and Sabouraud dextrose agar with Lecithin and Polysorbate 80 for fungi. These additives are necessary to neutralize the effects of disinfecting agents.
2. Select a flat surface area for sampling.
3. Wearing gloves, remove and hold the agar plate lid with one hand, keeping it sterile.
4. With the opposite hand, firmly press the surface of the agar onto the selected area. Pressure should be the same for every sample. **DO NOT MOVE THE PLATE Laterally**; this will cause confluent bacterial growth and dramatically reduce the resolution of the colonies.
5. With a vertical motion, remove the contact plate from the surface and replace the lid.

Gloved fingertip samples

1. TSA agar with Lecithin and Polysorbate 80 is recommended.
2. Collect fingertip and thumb samples by lightly pressing each fingertip into the agar.

Shipping:

1. Clearly label each sample with a Sample Number and complete the Chain of Custody (COC).
2. Seal the rim of agar plate with electrical tape and place in a Ziploc bag in a box with sufficient packing material to prevent damage, along with the completed COC form.
3. Ship samples at ambient temperature Monday through Friday for receipt within 24 hours of collection.