



ENVIRONMENTAL MICROBIOLOGY LABORATORY, INC.
TOLL FREE: 866.888.MOLD ONLINE: WWW.EMLAB.COM

Isn't there a simpler way to take culturable air samples?

There is now!

BioCassette™

SIMPLIFYING CULTURABLE AIR SAMPLING

simpler. SIMPLER
Sampling device and media in a single unit
Pre-assembled, ready to use

faster. FASTER
No parts to disassemble and reassemble
Self contained, no impactor cleaning required

cheaper. CHEAPER
Eliminates the need to purchase an impactor
Saves time at sampling site

better. BETTER
Single-use device means no cross-contamination
Sealed against microbial contamination
Smaller and lighter than other impactors
More rugged and durable for shipping
Eliminates operational errors possible with other samplers

BioCassette™ is patented, with additional patents pending.



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SIMPLIFYING CULTURABLE AIR SAMPLING

The **BioCassette™** developed by Environmental Microbiology Laboratory, Inc. is a new device for culturable air sampling that is designed to both simplify the sampling process and protect the integrity of samples from sampling through analysis. The **BioCassette™** combines the agar plate and sampling device into a single disposable cassette in a package that is roughly the size of a standard 90mm petri dish.

Since the agar plate and the sampling device are integrated into one unit, the **BioCassette™** is both simpler and faster to use than a device that uses a separate petri dish. The Andersen™ sampler has a recommended cleaning procedure that should be carried out prior to each sample. The sampler then requires disassembly to load the media and reassembly prior to sampling. And then, of course, disassembly to remove the petri dish and reassembly prior to moving or storing the sampler. This is followed by the need to secure the petri dish lid with parafilm or similar laboratory tape. The **BioCassette™** requires only the removal of a plastic plug and sealing label for sampling. Replace these components after sampling and the device is ready to ship to the laboratory.

REDUCING ERRORS

Often you have only one opportunity to take a sample. The fact that Andersen™ style samplers require disassembly, cleaning, and reassembly with every sample introduces many opportunities for error. There are more chances for contamination, cross-contamination, poor air seals, clogged impactor holes, and unintended airflow. Some of these errors cannot be detected until the samples are analyzed. The **BioCassette™** eliminates these failure modes. You can rest assured that these types of questions are no longer threats to your protocol in legal cases.

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ABOUT EMLAB

EMLab™ specializes in environmental microbiological analysis. Our clients include IAQ professionals, Federal, State and local health departments, NIOSH, law firms, insurance companies, environmental consultants, industrial hygienists, mold remediators, property managers, home inspectors, schools, hospitals, allergists, and HVAC professionals.

Whether you are just getting started in the field, or are an established IAQ professional, our experts can help you with sampling strategies, sampling protocols, and recommendations based upon your results.

Our technical team is headed by Dr. Harriet Burge, Director of Aerobiology, from the Harvard School of Public Health, who pioneered the field over 30 years ago and has 50 peer reviewed papers in the field of allergy and indoor air quality; and Dr. Payam Fallah, Laboratory Manager and Senior Mycologist, who earned his doctorate in mycology at the University of Illinois. Our analytical team includes only college degreed and highly-trained analysts, many with masters or Ph.Ds in mycology or a related field. Our executive team is headed by CEO, David Gallup (CalTech, Stanford University) and President, Dr. David Bell (Harvard University, Columbia University, University of Michigan).



NORTHERN CALIFORNIA LABORATORY:
AIHA EMLAP #102856 | CA-ELAP #2525

SOUTHERN CALIFORNIA LABORATORY:
AIHA EMLAP #160266



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EASY AS 1, 2, 3!

To take a sample, just follow these three simple steps:



Remove the red plug and attach the sampling pump



Peel off the **BioCassette™** label and turn the sampling pump on for the desired sampling time.



Peel the backing off of the label and stick it back onto the **BioCassette™**, disconnect the pump, and reattach the red plug.

TYPICAL SAMPLING TIMES

In general, increase the sampling time if the conditions are clean and low fungal counts are expected. Decrease the sampling time if conditions are “dirty” and high fungal counts are expected. Be aware that opinions may vary on suggested sampling times.

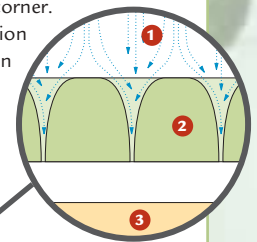
SAMPLING ENVIRONMENT	TYPICAL SAMPLING TIME
TYPICAL CALM OUTDOOR ENVIRONMENT	2 TO 4 MINUTES
TYPICAL INDOOR ENVIRONMENT	3 MINUTES
CLEAN INDOOR ENVIRONMENT	5 MINUTES
DIRTY INDOOR ENVIRONMENT	1 TO 2 MINUTES
CRITICAL CARE AREA IN A HOSPITAL, OR OTHER 'SENSITIVE' ENVIRONMENT	CALL THE LABORATORY

OTHER TECHNICAL ADVANTAGES

The **BioCassette™** design includes technical improvements to achieve better performance in terms of collection efficiency and repeatability. These improvements are realized by molding the device in plastic and integrating the media dish and sampler into a single unit.

TAPERED HOLES

The **BioCassette™** has holes that are tapered with a curved profile in the form of a quarter ellipse. The profile achieves smooth acceleration of the air (and particles) through the orifice and ensures a more consistent and uniform flow than can be achieved through a hole of constant diameter where air is accelerated very quickly over a sharp corner. In addition, the gradual acceleration through a tapered hole will result in lower stresses on particles.



- 1 AIR FLOW
- 2 ORIFICE PLATE
- 3 AGAR



ORIFICE PLATE TO MEDIA DISTANCE

The distance between the underside of the orifice plate and the media surface is an important factor in the performance of inertial impaction devices. The **BioCassette™** achieves consistency in this parameter by design. Since the media is integral to the device the variation in this distance is small. In samplers that are designed to use externally supplied media in petri dishes the variation in this distance is much larger. This is due to several factors that occur because there is no standard geometry for petri dishes. One style of petri dish will differ from another in height and diameter so that the same volume of media poured in each will result in different orifice plate to media distances. In petri dishes with the same nominal height and diameter a variation in the design of the underside of the dish may cause them to locate in the sampler in different ways and result in a different plate to media height. And finally, the fill volume offered will vary from manufacturer to manufacturer.