



360 DIAGNOSTICS™

Alternative Health Monitoring Allentown Sentinel™

Benefits of Sentinel™ Testing with Charles River PCR:

- Qualified PCR testing extraction processes designed specifically for the Sentinel™ unit
- Access to industry leaders in animal health surveillance and PCR diagnostic testing
- More sensitive and specific than soiled-bedding method
- Reduces the need for sentinel animals

Science Meets Technology

Through collaboration with Allentown, Inc., the idea of merging EAD® PCR testing with a unique sample capture is now possible. The Allentown Sentinel™ (see Figure 1) is a new colony protection solution that can be easily integrated in Allentown IVC plenum chambers. It provides a more effective approach to pathogen screening of rodent animal colonies housed in IVCs, along with the reduced labor and costs associated with maintaining soiled-bedding sentinels.

In cooperation with Allentown, Inc., Charles River conducted studies to demonstrate proof of performance for the Sentinel™, including a comparison of EAD® PCR testing of the Sentinel™ with traditional, soiled-bedding detection methods for several infectious agents. The study revealed the detection of agents by EAD® PCR on the Sentinel™ that were poorly detected or undetected by soiled-bedding sentinels (Table 1).

Table 1: Summary of agent groups detected via soiled-bedding method vs. EAD® PCR on the Sentinel™.

Agent Group	Soiled-Bedding Method	Sentinel™ PCR Method
Protozoa	10.0% positive	100% positive
Mites & Pinworms	6.3% positive	100% positive
Bacteria	21.4% positive	85.7% positive
Viruses	6.3% positive	100% positive
Average of All Agents	11.0% positive	96.4% positive

Figure 1: Allentown Sentinel™ sample capture unit.



EVERY STEP OF THE WAY

Program Overview

Once the Sentinel™ has been integrated into an Allentown rack, allow it to collect exhaust air dust for the duration of a regular health monitoring interval (e.g., three months). When it's time to test the rack, remove the Sentinel™ collection media, place it into a sample collection container, and ship it to Charles River for testing. Clients can schedule the submission of their samples in LTM™ (Laboratory Testing Management®) – our online data management platform. Clients will have the option of selecting EAD® (Environmental) PRIA Panels, varying from prevalent to complete, or requesting custom panels. Our experts can help determine program frequency and ideal testing profiles. Sample programs are outlined below.

Program Type	Annual Frequency			
	Month 3	Month 6	Month 9	Month 12
Sentinel-Free – Plenum Level Monitoring	ST	ST	ST	ST
Hybrid – Rack Level Monitoring	ST	S	ST	S

ST= Exhaust Air Dust (EAD®) PCR testing on the Sentinel™ collection media*

S= Sentinel monitoring via traditional methods (i.e., serology, PCR, whole animal screening) performed on either resident (immunocompetent only) or sentinel animals

**Non-invasive fecal samples can be collected from resident or sentinel rodents and pooled with EAD® samples.*

Program Development

Not all laboratory animal facilities are the same, often requiring health monitoring (HM) programs that are specifically designed around an institution's infectious agent exclusion list, study protocols, or type of research animals being utilized. Charles River's 360 Diagnostics™ experts work directly with clients to develop a customized HM program that meets their budgetary and surveillance requirements. Program development can include:

- Consultation to assess biosecurity risk
- Preventative training and education
- Step-by-step assessment of current HM processes
- Facility design consultation

To request a consultation, please go to www.criver.com/360consultation.