

Many facilities use soiled bedding sentinels to detect infections in their rodent colonies. Recently, testing of exhaust air dust (IVC filter) samples as replacement for the sentinel method for health monitoring has been introduced. Potentially, there are some significant advantages of this new method over soiled bedding sentinels:

- no sentinels are needed
- all cages in a rack are continuously monitored
- less labour-intensive and eliminating inadequate soiled bedding transfer procedures

For ethical reasons, such as animal welfare and responsible use of laboratory animals, it is important to document that the change from the use of soiled bedding sentinels in health monitoring to IVC filter testing can be justified. This includes, like for any other method or sample type, adequate validation of the IVC filter sampling in the animal facility and testing at the laboratory, before an educated decision can be made to implement this method in health monitoring programs.

The ability of the IVC filter device and the testing laboratory to reliably detect all relevant agents with equivalent or better sensitivity, as achieved by testing biological samples, should be documented. This to assure facility management, so IVC filter sampling and testing will provide them with the same or more accurate results as testing soiled bedding sentinels do.

For each agent listed in the FELASA recommendations for health monitoring of rodent and rabbit colonies (2014) QM Diagnostics is validating IVC filter testing by realtime PCR. For bacteria, the validation is complete. Validation for viral agents and parasites is in progress, as it takes time to gather the necessary number of filters exposed to relevant agents to complete an adequate validation and provide evidence-based conclusions. QM Diagnostics will inform its customers about the progress of the validation.

In the absence of published data on the validation of the IVC filter methodology's ability to capture all relevant agents, it is QM Diagnostics' recommendation to validate its use in your own facility prior to replacing your current program. This means that for some racks current sample types (sentinel/line animals, fecal samples, swabs) and IVC filter filters should be tested in conjunction and the results compared for a period of time (e.g. 2-3 sample cycles) to establish consistency in the results between the compared methods. Based on the outcome, facility management can then make a data-driven decision to change to IVC filter or not.

Contact

Please contact us if you would like to know more about our health monitoring support, or any of our other products and services.

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