

Hospital Sanitation Program

American Journal of Infection Control study compares three ATP Testing Systems. Charm Sciences® novaLUM® and PocketSwab® Plus: Only ATP System verified

A study published in the *American Journal of Infection Control* established validation criteria for ATP (adenosine triphosphate) detection systems that monitor hospital surfaces. Hospital surfaces were treated with three representative bacteria and blood as biological sources of ATP. Three different ATP detection systems, Hygiena SystemSURE II™ with Ultrsnap™ swab, 3M Clean-Trace™ NG with UXC swab, and Charm Sciences novaLUM with PocketSwab Plus swab, were evaluated and compared.

Some of the study criteria used were the linearity of ATP detection, limit of detection, lack of interference from other substances, swabbing efficiency, clinical sensitivity, reportable range, measure of cleanliness after cleaning, and test variability. Only the Charm Sciences novaLUM and PocketSwab Plus system met the verification standards.

The study validated that measurement of ATP is applicable for monitoring cleanliness. ATP is sufficiently stable over a ten-day period, unperturbed by sanitizer, and is subsequently removed with effective cleaning (similar to bacterial removal) as measured using ATP testing. The study serves as a model for cleaning validation and verification and for the evaluation of ATP testing systems.

Study Highlights

Charm novaLUM and PocketSwab Plus:

- ▶ Had a significant advantage in the detection range and linearity of detection for the three bacteria tested in the study: *S. aureus*, *A. baumannii*, and *C. albicans*.
- ▶ Showed the lowest limit of detection.
- ▶ Showed the least variability.
- ▶ Showed a lack of interference from disinfectants/detergents.
- ▶ Only system verified to have met manufacturer product claims in the study.
- ▶ Only ATP system recommended for use in hospitals without protocol modifications.



Conclusion:

Detection of ATP on surfaces is validated as an effective tool to monitor cleanliness and to document the effectiveness of cleaning programs. Of the three ATP systems evaluated, only the Charm Sciences novaLUM and PocketSwab Plus system met the verification standard used in the study.

[1] Carmen V. Sciortino PhD, R. Allen Giles BS. Validation and comparison of three adenosine triphosphate luminometers for monitoring hospital surface sanitization: A Rosetta Stone for adenosine triphosphate testing. *American Journal of Infection Control*. October 2012. 40(08) e233-9



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